

TRANSFER & STORAGE

TRANSFER AND STORAGE OF MERCHANDISE
MERCHANDISE DISTRIBUTION
MOVING AND STORAGE OF HOUSEHOLD GOODS

Vol. XVIII, No. 10

Chicago and New York

October, 1919



DENBY MOTOR TRUCKS

THE big Denby 5-tonners are very popular with contractors because they can handle work unaided that is beyond the ability of the ordinary truck.

This ability to meet the hardest work successfully is typical of the Denby line. Each model—and there is one for every trucking need—is built to meet any service that a truck of its capacity may have to.

Back of this greater performance ability is a fuel economy that is unusually low. The result is a hauling cost that increases profits.

(24)

DENBY MOTOR TRUCK COMPANY
DETROIT U. S. A.

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Garford

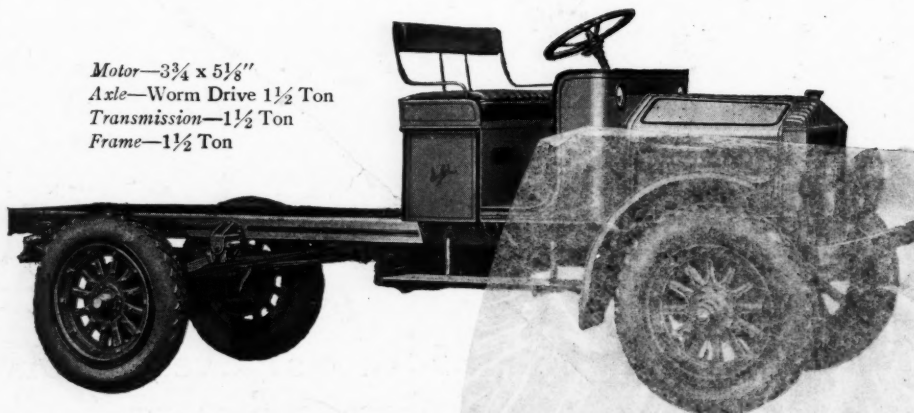
TRADE MARK REG. U.S. PAT. OFFICE

1 $\frac{1}{4}$ Ton
\$1890

F. O. B. LIMA

Pneumatic Cord Tires, 36 x 6", all around
Power Tire Pump and Extra Rim, \$285 extra
Electric Lighting and Starting, \$125 extra

Motor—3 $\frac{3}{4}$ x 5 $\frac{1}{8}$ "
Axle—Worm Drive 1 $\frac{1}{2}$ Ton
Transmission—1 $\frac{1}{2}$ Ton
Frame—1 $\frac{1}{2}$ Ton



A New Garford Model—1 $\frac{1}{4}$ Tons Capacity— of True Garford Quality—at a Remarkable Price

THIS new Garford of 1 $\frac{1}{4}$ ton capacity is possessed of the same rugged qualities which have made Garfords known wherever staunch service and long endurance are required.

It is a Garford—*through and through*—practical in design, finished in workmanship.

It is a motor truck equipped with every necessity to fit it for hard, continuous work.

Only the large production capacity of the Garford organization, its long experience and standardized methods of manufacture, permit the building of this new motor

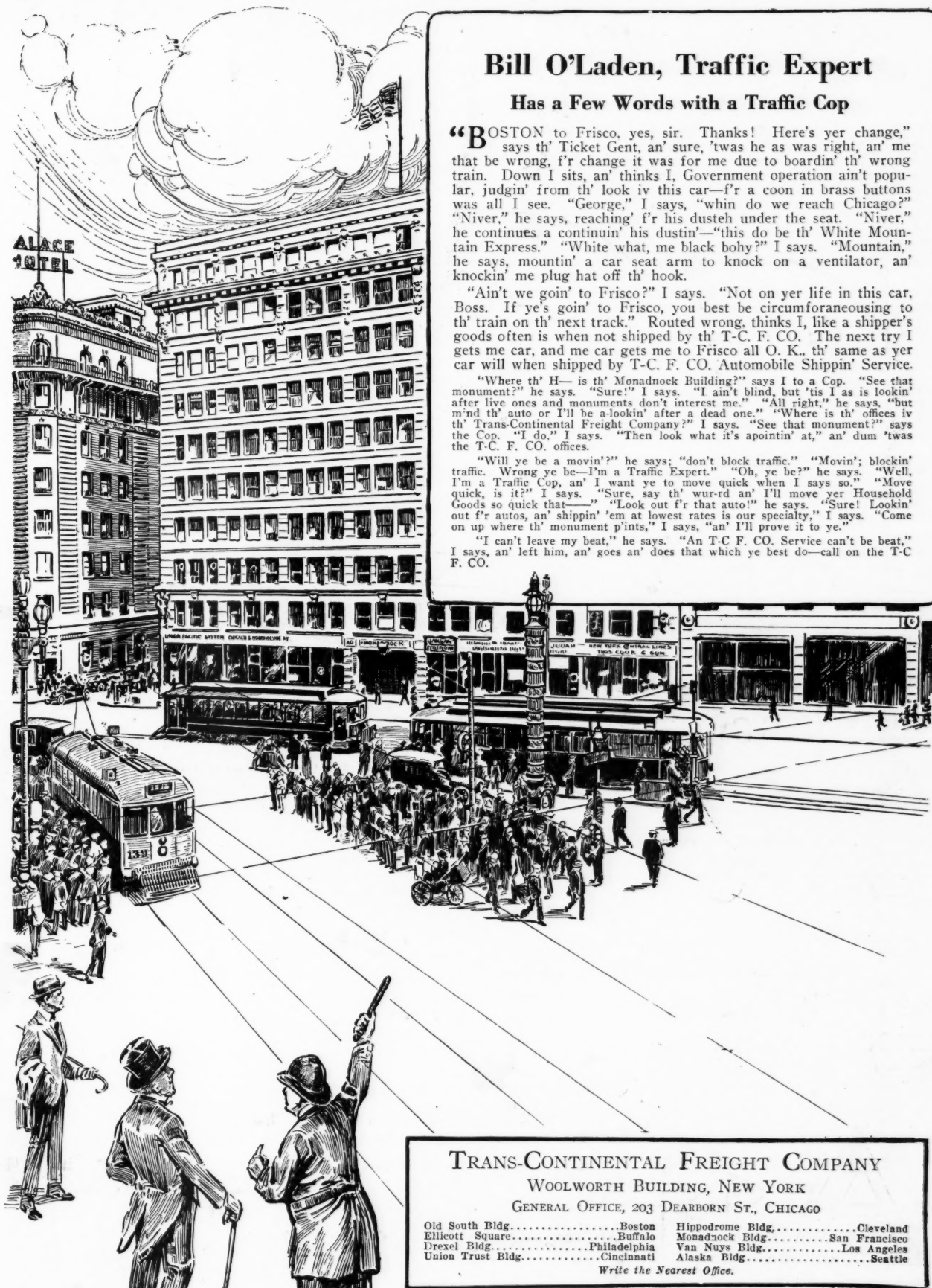
truck so high in quality value at its moderate price.

This new Garford Model is unquestionably "a mighty husky 1 $\frac{1}{4}$ ton truck." It merits the attention of those interested in securing the **low cost ton mile** delivery. See it at the nearest Garford salesroom.

"USERS KNOW"

The Garford Motor Truck Company, Lima, Ohio
Motor Trucks of all Capacities

Distributors and Service Stations in all principal cities



Bill O'Laden, Traffic Expert

Has a Few Words with a Traffic Cop

"BOSTON to Frisco, yes, sir. Thanks! Here's yer change," says th' Ticket Gent, an' sure, 'twas he as was right, an' me that be wrong, f'r change it was for me due to boardin' th' wrong train. Down I sits, an' thinks I, Government operation ain't popular, judgin' from th' look iv this car—f'r a coon in brass buttons was all I see. "George," I says, "whin do we reach Chicago?" "Niver," he says, reachin' f'r his dusteh under the seat. "Niver," he continues a continuin' his dustin—"this do be th' White Mountain Express." "White what, me black boh?" I says. "Mountain," he says, mountin' a car seat arm to knock on a ventilator, an' knockin' me plug hat off th' hook.

"Ain't we goin' to Frisco?" I says. "Not on yer life in this car, Boss. If ye's goin' to Frisco, you best be circumforaneousing to th' train on th' next track." Routed wrong, thinks I, like a shipper's goods often is when not shipped by th' T-C. F. CO. The next try I gets me car, and me car gets me to Frisco all O. K., th' same as yer car will when shipped by T-C. F. CO. Automobile Shippin' Service.

"Where th' H— is th' Monadnock Building?" says I to a Cop. "See that monument?" he says. "Sure!" I says. "I ain't blind, but 'tis I as is lookin' after live ones and monuments don't interest me." "All right," he says, "but m'nd th' auto or I'll be a-lookin' after a dead one." "Where is th' offices iv th' Trans-Continental Freight Company?" I says. "See that monument?" says the Cop. "I do," I says. "Then look what it's apointin' at," an' dum 'twas the T-C. F. CO. offices.

"Will ye be a movin'?" he says; "don't block traffic." "Movin'; blockin' traffic. Wrong ye be—I'm a Traffic Expert." "Oh, ye be?" he says. "Well, I'm a Traffic Cop, an' I want ye to move quick when I says so." "Move quick, is it?" I says. "Sure, say th' wur-d an' I'll move yer Household Goods so quick that—" "Look out f'r that auto!" he says. "Sure! Lookin' out f'r autos, an' shippin' 'em at lowest rates is our specialty," I says. "Come on up where th' monument p'int's," I says, "an' I'll prove it to ye."

"I can't leave my beat," he says. "An T-C F. CO. Service can't be beat," I says, an' left him, an' goes an' does that which ye best do—call on the T-C F. CO.

TRANS-CONTINENTAL FREIGHT COMPANY

WOOLWORTH BUILDING, NEW YORK

GENERAL OFFICE, 203 DEARBORN ST., CHICAGO

Old South Bldg. Boston
Ellicott Square Buffalo
Drexel Bldg. Philadelphia
Union Trust Bldg. Cincinnati

Hippodrome Bldg. Cleveland
Monadnock Bldg. San Francisco
Van Nuys Bldg. Los Angeles
Alaska Bldg. Seattle

Write the Nearest Office.



Steady increase in sales demands enlarged facilities

THE AUTOCAR MOTOR TRUCK

1½-2 tons

Chassis Price

\$2300 97-inch wheelbase

\$2400 120-inch wheelbase

More business houses bought Autocar motor trucks in the first six months of 1919 than in any previous six months in the history of The Autocar Company. These orders came from concerns in three hundred and sixty-three different lines of business.

Orders booked in July were double those of any other month.

The capitalization of The Autocar Company has been increased—manufacturing and service facilities are being enlarged—to keep up with the continuous demand for Autocars.

The fixed policy of The Autocar Company is to render complete after-sale service through direct factory branches that it owns and operates.

It is all important for the truck buyer to investigate the service facilities put at his disposal by the maker of the trucks he is considering.

THE AUTOCAR COMPANY, Ardmore, Pa. Established 1897

The Autocar Sales and Service Company

New York	Boston	Philadelphia	Chicago	Pittsburgh	San Francisco
Brooklyn	Providence	Allentown	St. Louis	Los Angeles	San Diego
Bronx	Worcester	Wilmington	Baltimore	Stockton	Sacramento
Newark	New Haven	Atlantic City	Washington	Oakland	Fresno

Represented by these Factory Branches, with Dealers in other cities

Autocar

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PITTSBURG.....437 Oliver Bldg.
DETROIT.....527 Ford Bldg.

ST. LOUIS.....1537 Boatmen's Bank Bldg.
NEW ORLEANS.....203 Marine Bank Bldg.
SAN FRANCISCO, 64 Pine Street
LOS ANGELES...517 Central Bldg.
SEATTLE.....402 Arctic Bldg.



"Judson Service" is dependable because back of it is a well balanced and experienced organization.

Every Detail in connection with the handling of our shipments is worked out in a painstaking manner, for only in that way can a uniformly satisfactory service be maintained. We insist that the shipper and warehouseman shall be satisfied.

If there is anything you wish to know about our method of doing business, please communicate with us. We encourage correspondence and earnestly request warehousemen to communicate freely with us, as it is our aim to be of as much assistance as possible in securing business which will result to the mutual benefit of all concerned.

Please do not overlook the undisputed fact that our reduced rates and through car service makes business for the warehouseman because it induces the household goods owner to ship rather than sell his goods.

Have you a supply of our shipping tags, shipping order blanks, etc. If not, please let us send you some. They are free for the asking and we are anxious that you should have them.

JUDSON SERVICE

SAVES MONEY
WEAR
AND TEAR

Judson Freight Forwarding Co.

Another

FEDERAL

One to Five Ton
Capacities

Why Cathcart Chose the Federal

When asked why the latest addition to his fleet of mammoth moving trucks was a Federal, Mr. Cathcart said:

"My experience over a number of years has proven that the Federal will do more work and do it well at a low cost of up-keep; and the service that I get from the local Federal Distributor connected with this fact would permit my consideration of no other truck."

This new addition to the Cathcart fleet was built under the personal direction of Mr. Cathcart and embodies his idea of what a moving van should be. Its double walls are reinforced with steel, and every convenience including electric lights, a water cooler, front and side doors which are locked with steel bolts and six individual lockers for the driver and crew, are provided.

Many years of consistent, dependable service, absence of mechanical trouble and low operating costs have made the Federal the logical truck for the transfer and storage man.

Let us tell you more about them—how Federals can be profitably adapted to *your* haulage service.

*"Federal Traffic News" Sent
on Request—Free of Charge*

FEDERAL MOTOR TRUCK COMPANY
57 FEDERAL STREET DETROIT, MICHIGAN

The "Lusitania,"
the latest addition
to the eight
Federals operated
by Mr. Cathcart
at Atlanta, Ga.



"Return Loads Will Cut Your Haulage Costs"

TRANSFER & STORAGE

PUBLISHED MONTHLY

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CHICAGO AND NEW YORK, OCTOBER, 1919

No. 10

Traffic Executive's Duty *Is to Study* Warehouse Cost System

**Educational Rate Campaign Among Men Who Store and
Distribute Merchandise Directly Affects Manufacturers
—This Is the Keynote of Cincinnati Convention—Bus-
iness Interests Invited to Send Representatives.**

ALMOST on the eve of the annual convention of the American Warehousemen's Association, to be held in Cincinnati in December, a permanent bureau for the dissemination of warehouse information has been established at Pittsburgh.

This is important for every manufacturer and traffic executive in the country to know. It is important for the reason that the work which this bureau is undertaking has a direct relation with the distributing costs of manufacturers.

The constructive purposes of the Pittsburgh bureau will be placed before the Cincinnati convention of the warehousemen and will supply the keynote of that convention.

Warehousemen throughout the country, regardless of whether they are members of the national organization, are evincing keen interest in the American Warehousemen's Association's campaign to effect general adoption of an adequate cost account system which takes into consideration such phases as storage, handling, labor conditions, property investment, general overhead expenses, depreciation of holdings, repairs, advertising, taxation and all other fundamentals which have to do with the prosperity or failure of the man engaged in housing and distributing the manufacturer's products. This campaign by the national association is designed to turn unprofitable business into profitable business. Granted that it will mature successfully, as its sponsors anticipate,

the manufacturer and his traffic executive will arbitrarily be brought into contact with a warehouse cost handling system which is radically different from the present-day haphazard and non-uniform method of charging for services performed.

This revised system has been placed in operation in several big warehouses in the country, and the owners of these particular industries assert that their profits are for the first time equivalent to-day to the "fair compensation" to which these owners are entitled, considering the amounts of money they have invested in their properties. In one instance, an association of manufacturers protested against the rates which one of these warehousemen was charging under the revised system. For nearly two years this warehouseman had been keeping a detailed chart of all items which entered into his expenses—a chart without precedent in the history of American warehousing and one so extensive that more than 2000 commodities were chronicled each in its own relation to every phase of cost. With this product of clerical work in his possession the warehouseman convinced the manufacturers' association which had protested that he was entirely within his moral and legal rights in making the increased charges.

The warehousemen who are to assemble at Cincinnati are to be made the beneficiaries of this warehouseman's experiences. For business reasons his detailed chart with its notation of more than 2000 com-

modities will not be placed before the convention; but the lessons to be drawn from what he has accomplished will be made available from the informative-value viewpoint. The revised system of charging adequate costs is being tried out experimentally in a number of warehouses of smaller importance than the big ones which say it is operating to advantage. The delegates at Cincinnati will listen to reports on these experiments. What have the results been? What do those who have tried it, think of it? What plans should be made for the development of the Pittsburgh bureau? What should be done to convince the manufacturer and the traffic executive that the new cost account system is justified? These and other questions are to be asked and discussed authoritatively at the December convention.

Traffic Men Should Attend

George S. Lovejoy, president of the American Warehousemen's Association and head of the Quincy Market Cold Storage and Warehouse Co. of Boston, has made a study of the revised cost account system and will touch upon the subject in his annual report. Charles L. Criss, general secretary of the national association and who directs the Pittsburgh bureau, will have a report to present covering what has been accomplished—a story of the progress of the campaign. Something constructive will be presented by T. E. Witters, of Baltimore, chairman of the association's committee on standardization of basis for rates and who with others directed the organization of the Pittsburgh bureau.

These are some of the men who are among the authorities on a movement with which every manufacturer and traffic executive must familiarize himself because of its effect on his business.

By attending the convention and listening to what these and other speakers have to say, representatives of the world of merchandise distribution can acquaint themselves with the situation quickly and thoroughly. The warehousemen who *know* will be there. The meeting will be an open one and the presence of manufacturers and traffic officials will be welcome. President Lovejoy of the national association is authority for this statement. He has informed **TRANSFER & STORAGE** that the convention will extend a cordial reception to all manufacturers and traffic executives who may wish to attend. President Lovejoy stands ready to send a formal invitation to any of these business men if they will indicate—either to himself personally or through **TRANSFER & STORAGE**—their desire and purpose to be present.

Searching for a Remedy

It will be news to most traffic executives to know that the warehouse industry concedes that in many ways it has been conducted unprofitably because of "unintelligent competition due to an absolute lack of knowledge of the cost of handling merchandise." Officers of the American Warehouse Association, recognizing this, set out to find a remedy. The committee on standardization of basis for rates after an inquiry found that one of the "serious mistakes" was "losing sight of the fact that there is a heavy overhead expense attached to handling operations; this oversight has practically made bankrupts of many warehouse concerns whose executives were experts on general storage problems and handling of labor."

Inasmuch as the suggestions advanced by this committee deal directly with manufacturer's distribution costs, its discussion of handling charges is herewith presented in detail:

"The unscientific method commonly used for estimating handling costs was to determine the actual labor cost of the *in* movement of the goods; an arbitrary amount for delivering (varying all the way from 50 per cent to 150 per cent of the *in* cost) was added as an estimate of the probable delivery cost and the price was then quoted slightly, if any, higher than the resultant figure. Nothing was added for overhead expense.

The Old and the New

"This method when wages of warehouse labor averaged 20 cents per hour made the handling rate appear to be about the same as the prevailing rate for storage. From this grew up the rough and ready idea of charging the same amount for handling as for one month's storage. Thus, the first month's charge would include the receiving and delivering of the merchandise and would be twice the charge for each succeeding month.

"Studies by experts have so far shown that the overhead expense is at least 125 per cent of the direct cost of laborers and checkers actually engaged in performing any particular handling operation.

"The old method was *in* cost plus estimated *out* cost, plus profit. The correct method is *in* and *out* cost plus overhead, plus profit. Ten to twenty-five per cent is a very conservative amount to add to the combined direct labor and overhead cost of handling, for profit.

"Wages have advanced 100 to 200 per cent over those paid since the old method of charging equal rates for storage and handling was first used. Taking into consideration these factors of increased wages, overhead expense and profit, it will be found that equitable handling rates may often be three or four times the rates shown in tariffs even now in use in some sections of the country.

Labor Expense Involved

"The absorption in the handling charge (usually billed with the first month's storage) of the cost of unloading and loading cars, transfers from wharves to warehouses, cartage, weighing and other services has been a growing evil. It has in effect given indirect rebates to certain customers and appreciably added to the losses of the warehouseman. It has been proved that in some instances the cost of handling and other services absorbed have made it impossible to earn one cent from certain lots of merchandise until they had been in store four months or more.

"The simplest handling operation is the receiving of goods from the tail-board of a truck, the hoisting and piling in warehouse and the re-delivery to the tail-board of a truck (other services being sometimes required and sometimes not); it is therefore good accounting to make this the base operation charged for in the first month and make extra charges for extra services. Thus car loading and unloading should be charged for separately, as well as cartage, weighing or any other service required, each being based on productive cost plus overhead, plus profit.

"In these days of advancing wages, cost figures at the time goods are received may be based on a wage scale far lower than when the goods are delivered. The present method of billing for receiving and delivering allows no opportunity of taking care of this possible source of loss. The proper method of handling this phase of the subject would be to charge for the handling *in* when goods are received and to charge handling *out* to the party then owning the

(Continued on page 42)



The terminal warehouse of the Union company at Jacksonville incorporates many modern features for the manufacturer desiring to distribute his products in the South

South Developing Great Modern Warehouse Facilities

*In the Construction of Plants Every Thought is Given
to the Needs of National Distributors*

**Jacksonville Plant Incorporates Many Modern Features—Maintains Joint Freight Agent,
Telegraph and Sub-Post Offices to Eliminate Shipping Delays and to Give
Manufacturer Quick Communication with Customers**

THE South is developing great storage and distribution warehouses that would do credit to any section of the country. In the construction of practically all of the larger warehouses in the South during the past few years, much thought has been given to the needs of the manufacturer, jobber and wholesaler who desires to distribute and market his product in that section, and also the most economical means of handling general storage.

At Jacksonville, the Union Terminal Warehouse Co. has constructed a four-story plant in which are incorporated many modern features of present-day warehousing. Particular attention was given to its location. Such considerations as sidings, loading platforms, elevators and space for branch offices to be leased and maintained by manufacturers, jobbers and wholesalers were also studied. Thus the warehouse offers excellent facilities for those desiring to distribute and market their products in Florida and Southern Georgia.

Besides offering adequate facilities for the handling of general storage and distributing, the company employs a joint freight agent representing the two prin-

cipal railroads entering Jacksonville; also accommodations are provided for a telegraph office and sub-post office. The advantage of having a joint railroad representative is obvious. It permits the manufacturer or shipper to load l.c.l. freight direct to either the Georgia Southern & Florida, the Southern Railway, the Florida East Coast or the Seaboard Air Line eliminating shipping delays. The telegraph and sub-post office offer the manufacturer and jobber quick communication with his customers.

Meet Demands of Distributors

While the offering of such a service at the plant proper has been adopted by only a few of the larger warehouses in the country, it has proved a success at the Union plant, being a service that the manufacturer desires and one which he takes advantage of whenever possible. In other words, it is a service that national distributors have been desiring for a number of years.

Still another feature of the plant is that it is one of the few warehouses in this section that are adequately equipped with large elevators and other necessary facilities for the handling and storage of automobiles.

In this part of the country automobile dealers carry large stocks at the public warehouses. This is one of the major activities of the Union company.

The warehouse was intended for the exclusive use of branch offices for manufacturers, jobbers and wholesalers, some of the largest companies immediately moving in on its completion. The joint railroad agent's office, telegraph and sub-post offices were installed a short time later.

During July of last year, the company was reorganized, the new management featuring the storage, distribution and pool car business. Since that date it has not been unusual for the warehouse to load out one-quarter million pounds of l.c.l. freight per day. The manufacturers shipping their freight to and from the warehouse have eliminated all teaming charges, particularly when goods are transported in solid cars to the plant from where they are to be broken up and reshipped l.c.l. on other railroads to destination.

Manufacturers Take Advantage of Service Offered

A large number of manufacturers and jobbers have taken advantage of the facilities and service offered by the Union company. The building numbers among some of the largest manufacturers and distributors in the country. For example, in the grocery business there are such companies as the Stringfellow, Padgett & Co.; Peninsular Naval Stores Co.; Baldwin & Lewis; Whiddon Cash Stores and Salzer & Bros.; in the grease and oil business there is the Globe Refining Co. and the Indiana Refining Co., and numerous other distributors marketing national known products, such as Libby, McNeil & Libby, Loose-Wiles Biscuit Co., Florida Electric Co., U. S. Shipping Board, Washburn Crosby Co., Ballard & Ballard Co., Cushman Motor Works, Jacksonville Cracker Works, National Can Co., American Potash Co., Virginia Paper Co., Coca Cola Co., Carolina Metal Products Co., H. & W. B. Drew Co., United Paper Co., Delco Light Co., numerous automobile companies and others dealing in a variety of products. While the com-



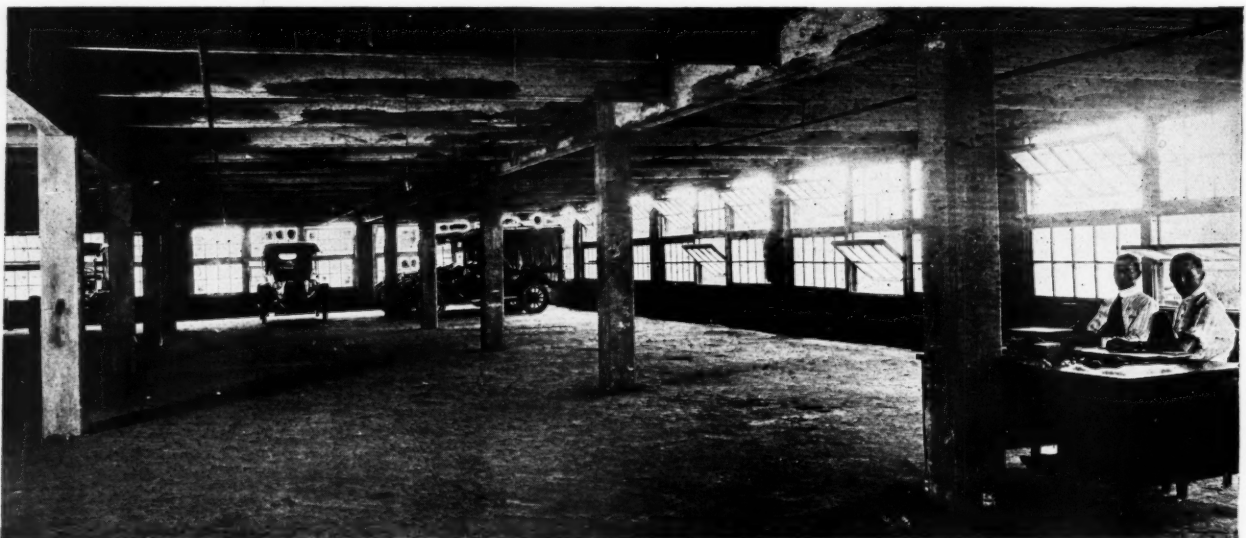
A section of the Union terminal warehouse leased by Libby, McNeill & Libby, distributors of foodstuffs

panies mentioned are only a few which operate branch offices at this warehouse, they indicate some of the classes of business that have taken advantage of the Union company's offering.

Maintain Office and Sales Organizations

The space rented by the manufacturers and jobbers as branch offices varies, some leasing as much as 40,000 sq. ft. The minimum amount of space leased to any tenant for branch office purposes is 5550 sq. ft. Practically all the manufacturers and jobbers maintain their own offices and sales organization and warehousemen for the handling and stowing of their products in the sections which they have leased.

In the construction of the plant, every thought was given to the needs of the manufacturer—that is, the efficient and economical movement of the goods to and from the freight cars and vehicles. The building is of reinforced concrete, of rectangular shape, four-stories



One of the features of the plant is that it is adequately equipped with large elevators and other necessary facilities for the handling and storage of automobiles. It is one of the few warehouses in the South offering such facilities. The section of the Union plant shown is leased by the Chevrolet Motor Co.



There is a loading platform 16 ft. wide on each side of the plant. It extends the full length of the building and has a capacity of 52 freight cars

and basement and sub-basement. The plant covers an area of 11 x 598 ft. and has a total floor space of over 340,000 sq. ft.

The plant is divided into eleven sections, each of five compartments, or a total of fifty-five compartments having a floor space of from 5,550 sq. ft. to 8,562 sq. ft. Ten of these compartments, known as A to B, have a capacity of 8,562 sq. ft. of floor space, while the other forty-five, designated C to K, are 5,550 sq. ft.

Perfect light and ventilation are permanently assured, as practically all of the exterior is constructed of glass. In other words, the exceptionally large number of windows which the plant is equipped with, is a feature which is only found in the more modern and up-to-date warehouses constructed within the past few years.

The plant is equipped with a loading platform on each side, which has a width of 16 ft., extending the full length of the building. Trackage facilities for twenty-six cars run parallel with each of the platforms, giving a total capacity of fifty-two cars. These cars may be loaded or unloaded directly onto the platforms, which are on a level with the floor of the car. Beneath the loading platforms are team driveways which receive and deliver merchandise to the basement and the elevators for the upper floors.

The upper floors are served by eleven 17-ft. 5,000 lb. elevators, one for each section. Each elevator is located near the delivery door and is 3 ft. from the loading platform, thus reducing the handling of goods to a minimum.

Each of the floors has a carrying capacity of 150 lb. per square foot and a height of 11 ft. for the lower floors and 10 ft. for the upper ones.

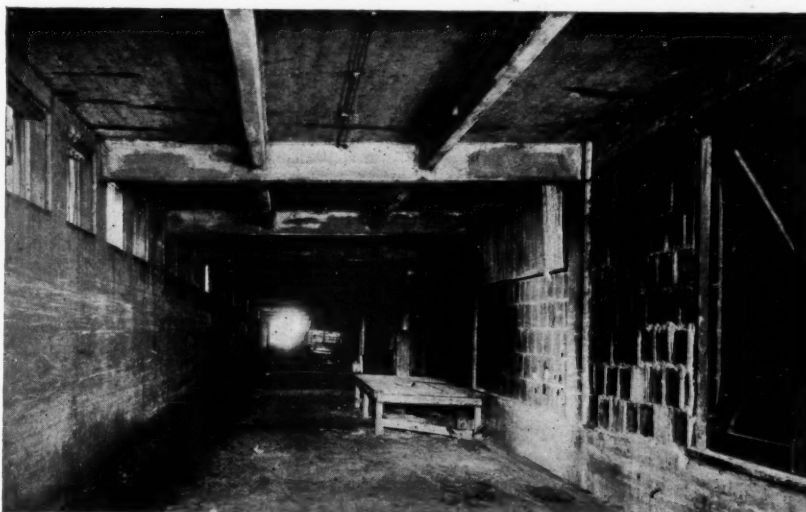
A modern sprinkler system with a 50,000 gal. steel gravity tank on the roof and an A. D. T. supervisory

service has been installed which has enabled the company to reduce its insurance rate on the building to 6 2/3 cents per \$100 and a flat rate of 20 cents per \$100 on practically all classes of contents.

The compartments and sections are rented to tenants on a square foot basis per annum, which includes the handling of l.c.l. outbound freight. The tenants simply place the freight on the loading platform opposite their section and the loading crew of the Union company loads it in station order. The warehouse company carries a loading gang of about twelve truckers and foreman to handle the outbound freight and storage, while the manufacturers and jobbers employ from four to six warehousemen to unload their solid cars and run l.c.l. freight to leading platforms and teams.

The construction of modern warehouses, both for storage and distributing purposes, has been made necessary by the large number of army camps and the expansion of the population in the South during the past few years. In fact, it has been on account of war activities that Jacksonville and other cities in that vicinity are just beginning to enjoy a greater degree of prosperity that they have experienced for many years. Naturally, an enormous amount of food stuffs and other classes of merchandise had to be shipped, stored and distributed for use at the camps and for the increased population. Thus there was a need of more adequate storage facilities in this section to care for the needs of the manufacturer, jobber and wholesaler.

Hundreds, yes thousands, of manufacturers and jobbers handling products known nationally have foreseen the business expansion of the South and as a result have expanded their businesses also, establishing branch offices for the economical distribution of their products.



One of the team driveways used for receiving and delivering merchandise to and from the basement and elevators. It is located beneath the loading platform, the elevator and delivery doors being shown on the right

FUTURE OF ARMY BASES

Government Not Yet Prepared to Surrender Great Plants to Commercial America

THE vast storage space which the Government is devoting to the needs of the Army and Navy will not in all probability be made available to the nation's distribution and warehousing requirements for at least five years, and it will be still another half decade before commercial interests can hope to come into possession of any great portion of these Federal storage facilities.

This is the conviction of Army officers whose war time service was identified with the development of some twenty-five supply bases in this country, Belgium, Holland and France—a construction accomplishment unprecedented in American military history and which involved expenditures aggregating millions of dollars.

Uncle Sam: Warehouseman

The significance of this situation cannot be emphasized too strongly in connection with America's need for more modern warehouses and terminal facilities, in the opinion of Government officials who are aware of what the Army has yet to do before surrendering its storage buildings to private business interests.

The Government owns or controls to-day for Army and Navy purposes approximately 300,000,000 sq. ft. of storage space in this country, both open and covered storage. Some of these properties have been commandeered and are still retained. Many are the last word in concrete construction; others are of the temporary corrugated iron, mill construction type. All are serviceable and laid out with the one idea of rendering economic service and the

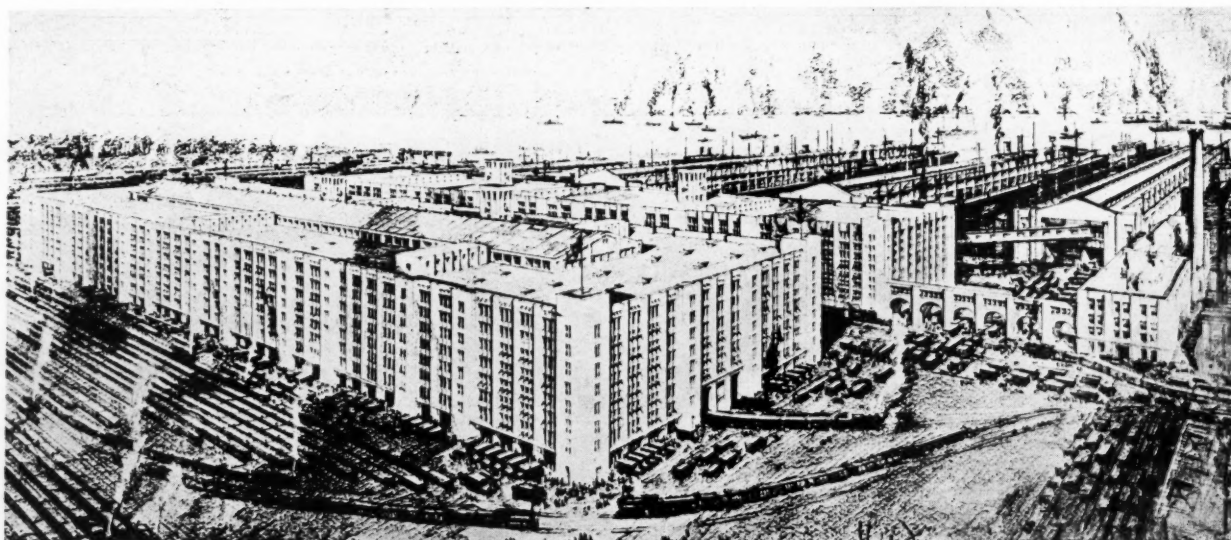
best protection to the merchandise for which they were designed.

It is probable that 5 years from now virtually all of this property will still be owned or controlled for the Army or Navy. Perhaps by 1930, if the country is not called upon again to defend the cause of democracy, much of this space will have been turned over to commercial America—some sold outright and the remainder made available through leases.

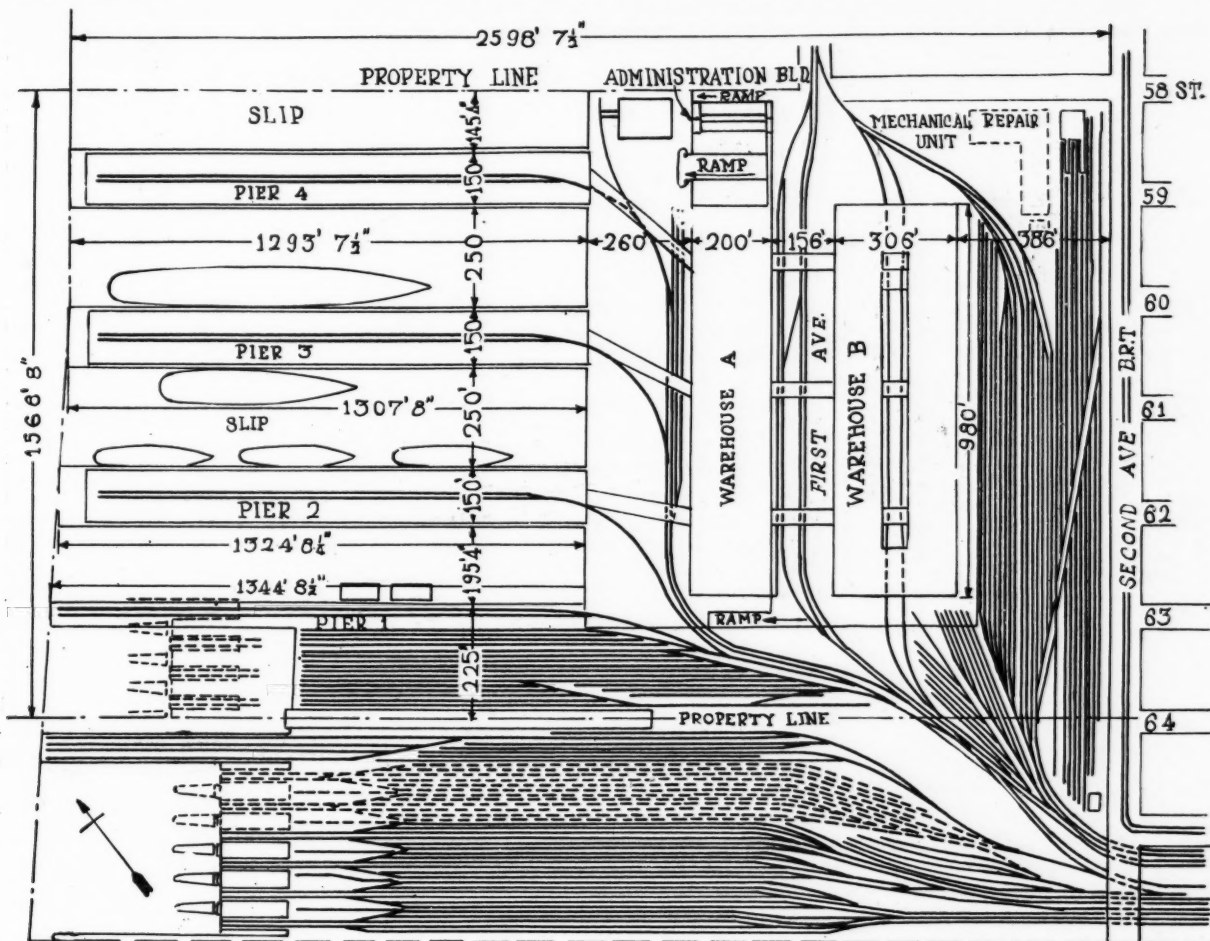
Stored at these great bases there are to-day hundreds of thousands of commodities valued at billions of dollars, the greater part of which is not physically convertible to commercial uses. This material cannot be discarded. Here are stored the millions of dollars worth of food products which the Government is to-day releasing to the public in its effort to reduce the high cost of living. Here, too, Uncle Sam must keep in store, for his Army and Navy, food, clothing, arms, engineering material, air service material, signal corps material and the hundreds of thousands of items which go to make up and maintain his wonderful organization.

Much to Be Done

For all this material there must be provided storage space. Even were most of it adaptable to commercial uses, the proposed Federal legislation to maintain a standing Army may be enacted, and the supplies and food would then be needed. War might conceivably break to the South or to the West and again they would be necessary.



General view of the Army's supply base at Brooklyn—the world's mightiest terminal and distributing warehouse plant and an example of what American big business ought to be building to accommodate commercial expansion



Seventeen miles of trackage at Brooklyn base. Here millions of tons of commodities for Army uses abroad moved on 1300 cars to waterfront, where modern machinery placed them upon the waiting ships

Abroad it is estimated that there are a million tons of miscellaneous articles for which Europe has no use and which accordingly cannot be sold on that continent. All this tonnage must be brought home, and this is the task which will require years to accomplish, for when it is transported eastward overseas it must be housed until it can be disposed of.

Each of these great bases has vast acreage devoted to classification yards covered with miles and miles of trackage, where as many as 1300 cars may be handled at one time at one base over a trackage of 17 miles, as is the case at the Army base at Brooklyn.

A. Wartime Development

It would be a mistake to assume that the Government may ever wish to turn over all its storage facilities to private interests. Before the world war the Government did not have funds available for constructing all the warehouses and terminals it actually needed for Army and Navy purposes. It may be said that the Government did not indeed comprehend the value of such buildings. The war brought home this realization—and it has provided the Government with an asset which it could not have obtained under peace time conditions.

All this means that business must build warehouses and port terminals for at least 5 years steadily if it hopes to meet successfully the needs of the reconstruction period.

During this era of expansion will come the great development of the new merchant marine which is to carry commerce under the American flag into the seven seas. Without warehouses and port terminals this commerce cannot survive; it cannot compete with foreign owned cargo-vessels and export and import houses.

Government May Favor Permanent Control

To the great task of supplying these warehouses and terminal facilities, Uncle Sam to-day is not in a position to lend a helping hand insofar as his military supply bases are concerned.

There is a disposition in some quarters to have the Government retain these great and most modern bases permanently at the ports of New York, Boston, New Orleans, Newport News, Philadelphia, Charleston, Norfolk, San Francisco and Newark, not to mention the great foreign bases at Brest, Antwerp and Rotterdam which it will be necessary to retain as long as khaki-clad soldiers are kept in Europe; and the inland bases at Chicago, Columbus, Schenectady, Pittsburgh, St. Louis, Jefferson, Md., and New Cumberland, Pa. In other words, the Government may exercise perpetual control over the more important bases, allowing to commercial interests only leases.

Under this plan the development of American warehousing and port terminals would after a period of years

FUTURE OF ARMY BASES

Government Not Yet Prepared to Surrender Great Plants to Commercial America

THE vast storage space which the Government is devoting to the needs of the Army and Navy will not in all probability be made available to the nation's distribution and warehousing requirements for at least five years, and it will be still another half decade before commercial interests can hope to come into possession of any great portion of these Federal storage facilities.

This is the conviction of Army officers whose war time service was identified with the development of some twenty-five supply bases in this country, Belgium, Holland and France—a construction accomplishment unprecedented in American military history and which involved expenditures aggregating millions of dollars.

Uncle Sam: Warehouseman

The significance of this situation cannot be emphasized too strongly in connection with America's need for more modern warehouses and terminal facilities, in the opinion of Government officials who are aware of what the Army has yet to do before surrendering its storage buildings to private business interests.

The Government owns or controls to-day for Army and Navy purposes approximately 300,000,000 sq. ft. of storage space in this country, both open and covered storage. Some of these properties have been commandeered and are still retained. Many are the last word in concrete construction; others are of the temporary corrugated iron, mill construction type. All are serviceable and laid out with the one idea of rendering economic service and the

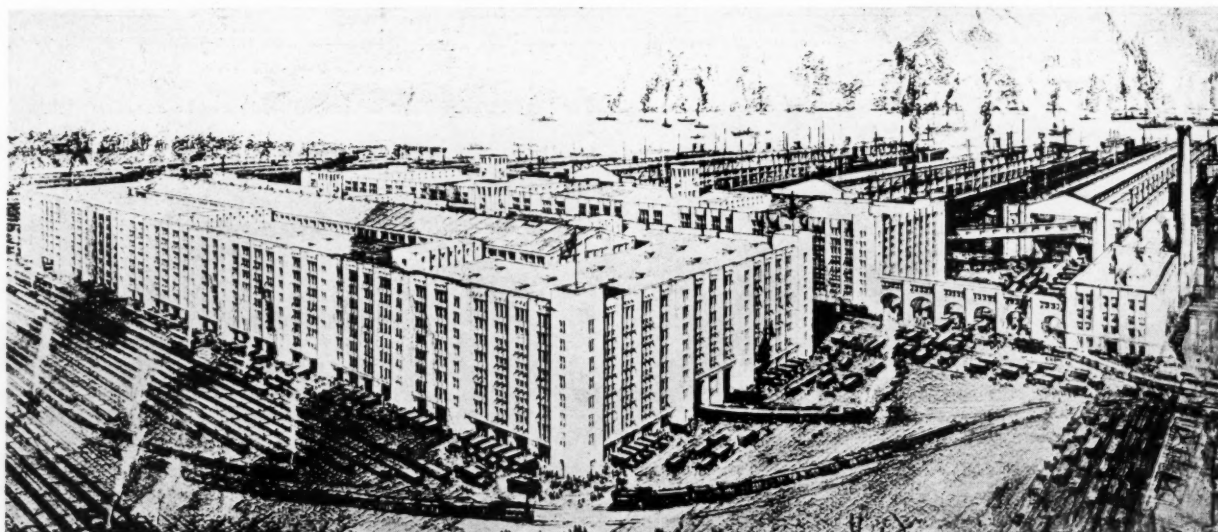
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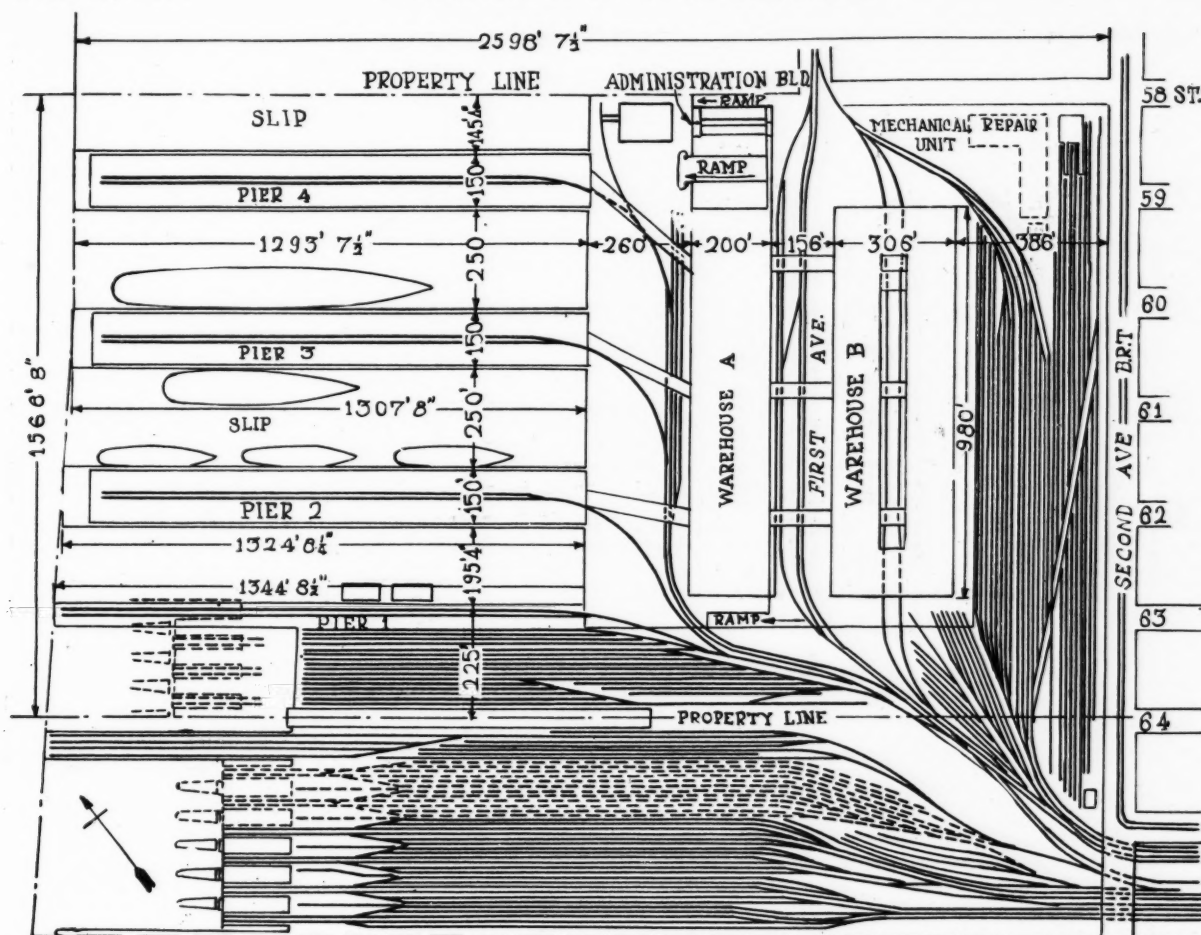
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Under this plan the development of American warehousing and port terminals would after a period of years



This shows the trackage in the foreground, the classification yard and warehouses "A" and "B" at the Brooklyn Army base. Yankee genius produced here something unprecedented in the history of engineering

receive Federal co-operation to an important extent. Picture the tremendous value to distributors who send their products to foreign lands of the enormous plants which have been such assets to America's part in the war and without which our Yankee military achievement would not have been possible.

Army officers declare that the manufacturing world has never realized that the Army base at Brooklyn, on the waterfront of New York Bay, is the world's greatest single terminal and distributing warehouse plant. This base and some of the others not only dwarf kindred commercial developments, but in them have been incorporated the practical working out of so many of the latest and best ideas of architects, engineers, warehousemen, freight handlers and material handling machinery manufacturers that the scrutiny of keen-visioned distribution and storage executives will be essential to the proper development of their own interests on the pattern designed by the Government.

A Mighty Accomplishment

Consider the Brooklyn base. Here is embraced an area of 100 acres from landward line to pier head, with 8000 ft. of stringpiece available for loading simultaneously twelve deep-draught ocean freight carriers. There are two main warehouse structures—"A," 200 by 980 ft.; "B," 240 by 980 ft. There is a mechanical and repair building; a four-story administration plant; and three "transfer sheds" or pier houses, each 150 by 1350 ft., which function in the removal of freight to and from the water carriers.

The warehouse floors contain more than 4,000,000 sq. ft. of floor space; the "transfer sheds," 1,250,000 sq. ft. Including sheds for transient use, all this affords actual storage space for 15,000 car loads of goods.

Handling 15,000 car loads, or from 300,000 to 400,000 tons of freight, on a 30-day turnover basis, particularly in these days of labor shortage, requires the utmost conservation of time and effort. The whole system of the Brooklyn plant is designed to meet those big problems in

freight and merchandise handling which begin and end at shipside or car door, and which involve loading, unloading, plant movement, both horizontally and vertically, and tiering.

In addition to the size of the plant there are several outstanding features which mark a great advance in merchandise and freight handling equipment as well as in methods employed, and the progress in the art of vertical transportation as applied thereto.

The utmost practical utilization is made of various devices for the reduction of manual handling. These include automatic elevators, cranes and derricks, lifting trucks for picking up whole loads with one single operation and shifting to other locations, trailer trucks and both gravity roller and portable power conveyors.

It is an old warehouse maxim to "keep the goods moving," and here, too, they are kept going between shipside or car door and the storage piles; but not only keeping them moving but "keeping the goods on wheels" is a fundamental and distinctive feature of the Brooklyn plant.

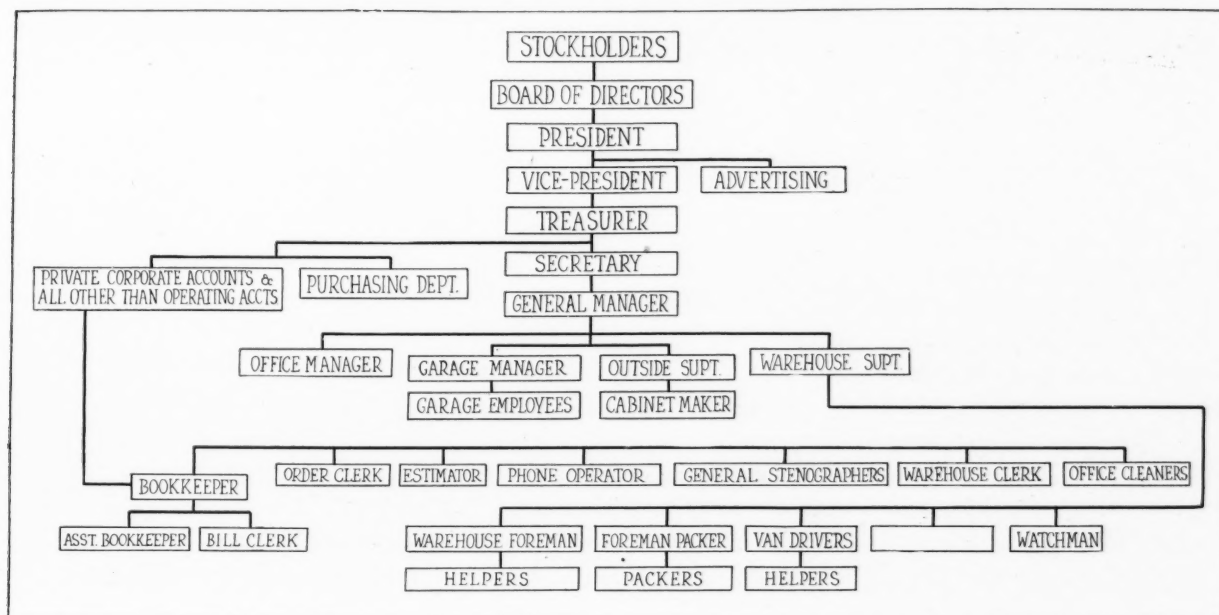
In this modern development everything is carried on four-wheeled trailer trucks, and here the goods which are transported across country by the trainload are also handled by the truck trains throughout the plant.

The Trackless Train

The trailers are moved horizontally by industrial plant tractors and vertically by means of one of the most original and highly efficient elevator installations ever devised. Goods are kept on the original trailers from loading point to destination, and handling is reduced to a minimum. The trailers are usually moved in trains of from four to five if loaded, and six to eight if light, and one man with a tractor handles the train. Contrast this with the string of handlers which would be necessary to move an equal tonnage with the old two-wheeled "baggage" trucks.

The tractors and trailer trucks are, of course, narrow gauge, and the trains are easily handled in the aisles and

(Continued on page 24)



Organization chart adopted by the Twentieth Century Storage Warehouse Co., Philadelphia. One of these charts is distributed to each employee

DEPARTMENTIZATION

Assists Warehouseman to Handle Big Business

**MAXIMUM EFFICIENCY OBTAINED BY HAVING
EMPLOYEE KNOW TO WHOM HE SHALL REPORT**

THE household goods warehouse can obtain greater efficiency in all transactions by departmentalizing its activities and by adopting an organization chart which will show the relation of each employee to that of the company.

By adopting such a system—that of departmentalizing the business with the use of an organization chart—each employee will know who his immediate superior is, and to whom he should look for orders and for assistance in regard to the carrying on of the company's activities.

Any warehouse may increase the efficiency of its various departments by working up an organization chart similar to that shown above—that is, indicating the relation of each employee and each official to that of the company.

A number of such charts may be blue-printed at small cost. They may be printed any size that is desired, but one that is 10½ in. wide by 7½ in. high can be read as easily and would serve the purpose for which it was intended as well as would one of larger dimension. These blue-prints may be distributed to the employees, bulletined in the offices of the heads of departments, tacked up in the vans and placed in numerous other conspicuous places so that the employee may become thoroughly familiar with them. An explanation of the

chart and its use should be made in detail to every employee.

As an example of the assistance it is to all employees: If the president desires to issue an order to the drivers, it is first sent to the warehouse superintendent, who in turn sends it to the driver.

Another illustration: Assuming a driver is on a job and has trouble which necessitates his telephoning the office, under the old system the driver would have to call for the secretary, general manager, or office manager. Not so to-day. He telephones to his immediate superior, the warehouse superintendent, who has full authority to act in the matter. Should the case be one for which the superintendent would not care to assume responsibility, he would in turn consult his superior officer, according to the routine of the chart.

This departmentalization of the various activities and the distribution of an organization chart among the employees comprise the new system recently adopted by the Twentieth Century Storage Warehouse Co., of Philadelphia, after the manager realized that considerable reform was necessary if the company was to operate on a basis similar to that used by other big business interests. The outcome of this system, or the adoption of

(Continued on page 30)

The Micro-Leveling Elevator

SPEEDING up and controlling the horizontal movement of goods on one level of a warehouse is not the most serious problem confronting the executives. Comparatively few warehouse managers conceive the extent to which indifferent elevator service affects plant turnover. It is a fact that, as the number of levels or stories increases, the elevators become more and more the spout of the funnel; their efficiency becomes the measure of the rate of the flow of goods.

Read how Uncle Sam solved the elevator problem at his great Army base in Brooklyn. During the war his method was a secret. The terminal engineering world and the commercial warehouse industry are learning only to-day that the Government has developed something new, something epoch-making, in the field of vertical transportation.

A WAR-TIME product of American engineering and inventing genius is to be made available to the commercial world. It is known as the micro-leveling elevator. Some call it the "operatorless elevator," because it runs up and down the shaft without man touching his hand to any device within the elevator itself. Instead, a man seated at a switchboard in another part of the building, can control the movement of an entire group of elevators, sending each to whatever floor he wills.

The micro-leveling elevator was designed and built primarily for Government service but warehouse and terminal authorities who have studied it assert that the solution of some of the most difficult problems confronting operators of commercial enterprises lies in following the Government lead. An executive who has been identified with the Brooklyn Army base and who has made a life study of handling costs as represented by labor, upkeep and overhead agrees with these authorities.

The "operatorless elevator" will cut down handling expenses, and this reduction in costs will be reflected in the warehouseman's weekly or monthly bills presented to the manufacturer for whom the warehouseman distributes.

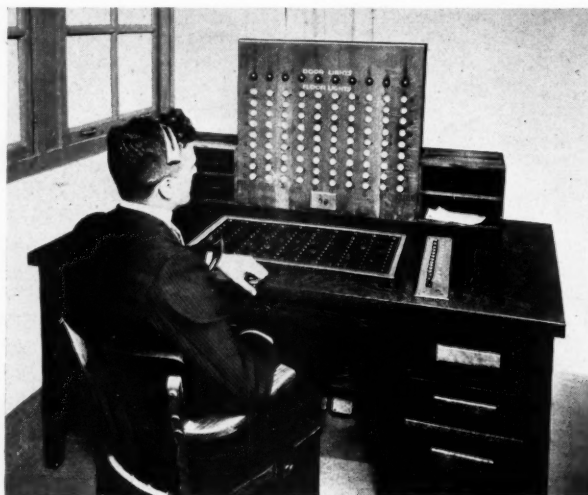
At the Brooklyn Army

base there are ninety "operatorless elevators" all used for freight service. The magnitude of this system may be comprehended when it is stated that these lifts are of 10,000 pounds capacity each. Eighteen are located in the pier sheds, serve two floors and have a speed of 100 feet a minute. Seventy-two are located in the warehouses, serve nine floors and have a speed of 150 feet a minute.

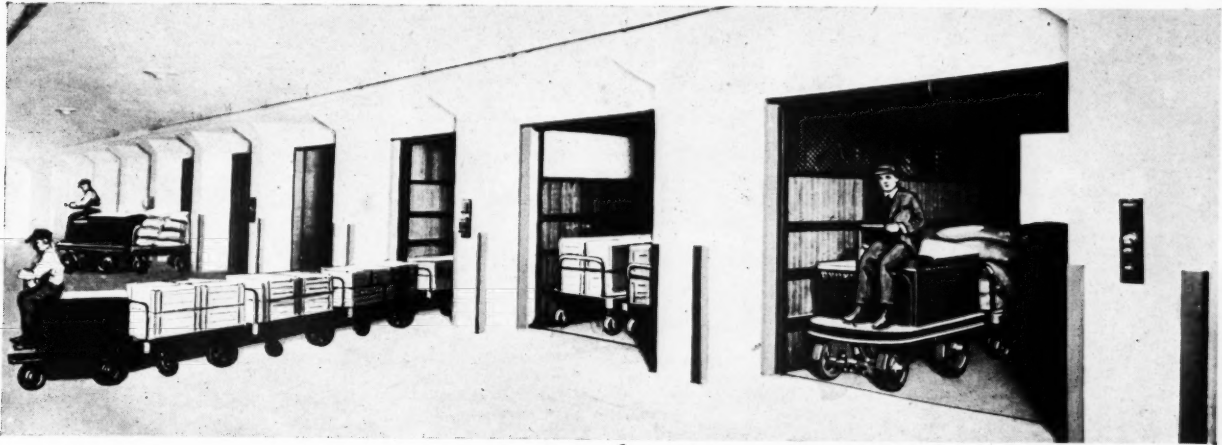
The elevator platform is 9 feet 4 inches by 17 feet in the clear and is intended to carry four trucks. Automatic stops are accomplished wherein the elevator platforms invariably register accurately with the landing sills by means of an automatic leveling device, and the landing or hoistway doors are opened automatically when the elevator reaches the floor to which it has been dispatched. It is not necessary to use operators on these cars.

Elevators in Groups

In a few old time office buildings and hotels one finds the passenger elevators scattered about individually or in pairs, but modern practice groups them to insure minimum waiting time between departing cars and to facilitate supervision. This same reasoning unquestionably applies to freight service, and the advantages of grouping elevators in in-



This dispatcher controls the movements of ten "operatorless elevators" each serving eight floors and basement—the "door light-floor light" system.



Here is a general view of a bank of ten "operatorless elevators" showing how trucks and trailers are run on and off. The micro-drive floor-leveling controller is directed by the push button system

dustrial plants is conclusively demonstrated in the Brooklyn Army base.

From seven to ten cars comprise a group which serves a "section" or some 325 feet in length, of each building unit, and out of such a group one is reasonably sure of getting some one car to serve his needs without waiting for any particular elevator. In other words, with ten cars in a group the average waiting time will obviously be just one-tenth of what it would be if each car was placed separately.

Signal Light System

At the Brooklyn base each group of elevators is handled by a central dispatcher, who is located in a small office placed for convenience a short distance from the group. Before him is a table not unlike a telephone switchboard, with one upright and one horizontal panel. In the upright panel is a column of white lights for each elevator, each light representing a floor. At the top of each column is a colored light which indicates, when lighted, that all hatchway doors are closed and the elevator can be operated. The operating buttons are placed in rows in the horizontal panel.

The group system, in which the elevators are operated by a central dispatcher, instead of such elevator being placed separately and operated individually, gives the least waiting time and maximum service out of a given number of elevators. A central dispatcher, with a group of elevators under his control and knowing all the requirements, can get better service than can be obtained from the same or even a greater number of elevators placed singly and subject to both the varying intelligence and the loading tendencies of as many individual operators.

Going Down!

In general or miscellaneous service, which is the most difficult to handle, the dispatcher receives calls for cars from the various floors. As an example, the dispatcher gets a call for a car from the seventh floor to take goods to the third floor. A quick glance at the vertical panel shows that car No. 5 is standing idle at the sixth floor, since its "5" white light is burning. The colored lamp at the top of the row is lighted, indicating that all doors

are closed. The central dispatcher then touches "7" button and the white light disappears as the car leaves the sixth floor, and shortly signals its arrival at the seventh floor by means of a light in bulb "7." As the doors open automatically the colored light is extinguished and the car is out of the control of the dispatcher and can not be run until some one on the seventh floor touches one of the seventh floor "door closing" buttons, of which one is on either end of the car and two others alongside the opposite entrances. As soon as the load has been run on and the door button pushed the doors close and the colored light again appears, signaling to the dispatcher that all is clear to go ahead. He then touches "3" button, thereby dispatching the car to the third or destination floor.

When certain elevators have been assigned by the dispatcher to regular or fixed service for a time, such as handling a trainload of flour going from the first level to the seventh, individual calls are not needed, for the lights alone tell the story, the appearance of both a colored and a white light in the same panel then indicating that the car is loaded, the doors closed and the elevator ready to be dispatched.

A Product of Genius

The central dispatcher can readily detach any elevator of his group from the operating board. It then can be operated directly from the car switch provided therefor, and still retain its automatic door opening and automatic leveling features. Until disconnected from the central board, however, the car switch remains inoperative.

Excepting for convenience, or when goods are being sent to a floor where no one is working at the time, no one needs to ride on the elevators for the purpose of operating the elevator or its doors.

The elevator equipment described represents the product of years of experience in elevator design and manufacture. It is a well known fact that with an automatic push button elevator, in order to be adaptable for freight service where trucks are used for handling goods, the car platform must be brought to an accurate level with the landing and maintained there under all conditions of loading and unloading.



View of the runway at the Army supply base in Brooklyn. Here may be seen the "trackless trains" in operation

A push button controlled elevator has recently been developed which stops the car automatically with any desired accuracy and with any load within its capacity. When the position of the car changes during the loading and unloading, due to the lengthening or shortening of the cables, the car is automatically and quickly restored to the landing level. This remarkable accomplishment made it not only possible but more advantageous in this case to operate the freight elevators by a central dispatcher than by individual operators on each car.

How Floor-Leveling Is Worked

In the micro leveling elevator the hoisting unit consists of the main driving machine and the micro drive mechanism.

At the Brooklyn base the main machine is of the worm gear type and is driven by a two-speed alternating current motor giving full and one-third speed. The micro drive consists of motor, brake and worm gearing of about one-tenth of the speed and power of the main machine. The micro drive is mechanically connected to the main machine through the revolving electro-mechanical main brake. The slow motion of the micro drive through the final few inches of travel in connection with a novel system of control, results in the car stopping level with the landing with any load to the full capacity of 10,000 pounds. At the leveling is accomplished at slow speed and by means of the small motor, there is less wear and tear of mechanical and electrical parts than with an elevator of the ordinary type, and the amount of power required for leveling is reduced to a minimum.

Micro operation is applied to car switch as well as automatic push button control. In this case the operator throws his switch to the stop position on approaching the floor just as in the operation of the ordinary car switch control. If the car is within the micro zone, the micro drive functions and stops the car level with the floor. Although the micro or leveling zone extends eight

inches above and below floor levels, in actual service the average micro movement is usually not more than three inches.

The doors are operated by an ingeniously-arranged mechanism which automatically opens the doors at the floor to which the car has been dispatched and as the car approaches that floor. As the door-operating machine starts to open the doors when the leveling zone is reached by the car, it is obvious that the leveling is accomplished while the doors are being opened and therefore no additional time is required for leveling.

The door-closing operation can be initiated only by touching a closing button either on the car or alongside the door opening on the floor.

The doors themselves represent a radical development in elevator hatchway doors.

Consideration of the trailer truck problem pointed the way to doors of maximum height and rising from fixed sills. Due to the high door openings and limited story height it was necessary that the door-operating mechanism be so arranged as first to move the door horizontally into the hatchway a sufficient distance to clear the sill and door above and then to raise the door vertically to clear the opening. These doors are made of a steel frame with panels three-quarters inch thick, of sheet steel and asbestos composition. In case of emergency, the cars can be run with the doors open.

Ships are unloaded in part on both pier-shed levels, and goods in transit between the warehouses and first transfer shed level reach or leave the latter on trailer trucks via the eighteen automatic elevators with which the sheds are equipped. These elevators are operated individually by means of buttons on each floor and in the car. In all other features they duplicate the warehouse elevators.

The installation of the micro-leveling elevator was made by the Otis Elevator Company. The micro-drive, or floor-leveling device, was invented by F. C. Furlow, president of that company.

MORAL : ?

When the steamship Jason arrived in New York on Sept. 19 with the greatest cargo from Germany since the war, officers on the vessel said it was quite common to buy in Hamburg a meal for 75 cents which could not be duplicated in New York for \$2. Here is a comment volunteered by one of the Jason's officers:

"Germany's transportation system has experienced remarkable rehabilitation. The marketing efficiency which Germany had developed before the war is again a potent factor in the movement of goods and food. Food is cheaper in Hamburg than in New York because America's methods of distribution have never equalled those of Germany."

FREIGHT OVERCHARGES

Statistics Show that Overcharges Amount to
Approximately 5 per cent

MANUFACTURERS and shippers, particularly those who do not employ expert traffic men, are no doubt losing enormous amounts yearly by not having any conception of whether they are being charged the correct rate on the transportation of their products.

The auditing of freight bills to detect overcharges has heretofore been given too little attention, particularly by the small manufacturer and shipper. It is a matter which has to do with the cost of producing and also that of marketing. In other words, it is one of the many subjects relating to transportation and which enter into the distribution of the manufacturers' products.

One manufacturer auditing his freight bills approximates that 5 per cent of his total freight paid is an overcharge. In one year he saved \$75,000 by auditing such bills. If one manufacturer is being assessed on the basis of an incorrect freight rate, and can save \$75,000 by auditing his bills, other manufacturers, both large and small, are being assessed on the same basis. Why not begin auditing your bills and know whether your freight rates are being based correctly?

A SMALL manufacturer or shipper will always scrutinize an invoice, making absolutely certain as to its correctness before paying it. On the other hand, he usually pays freight and express bills covering the charges on goods shipped without question.

This course of procedure is followed for various reasons. Under a ruling of the Director General of Railroads now in effect, it is necessary that freight charges be paid upon taking delivery of the goods or, in cases where concerns are on the credit list of the railroads, they are allowed twenty-four hours in which to pay freight bills. This leaves little or no opportunity for the auditing of freight bills where there is a question as to the correct rate, unless the concern has at its disposal a complete file of railroad tariffs. Consequently, bills are invariably accepted as rendered, and, after the freight is received, the freight bill is filed for future checking. In the case of the small concern which does not possess the facilities for checking, the freight bills are usually filed as a matter of record without being audited. As a result, the shipper or consignee does not know whether or not the rate charged is the correct one—often it is not.

Realize Importance of Auditing Bills

Large concerns realizing the importance of a strict audit of all freight bills, maintain a traffic department, one of the duties of which is to check the freight charges, and to file claims for the overcharges detected. For example, in the case of a large manufacturer which operates over sixty plants in various parts of the United States and Canada, the total freight paid in one year approximates one and one-half million dollars. In auditing the freight bills, the traffic department of this company detected overcharges amounting to \$75,000, or approximately 5 per cent of the total freight paid during one year. This concern pays freight on various commodities representing the raw materials it receives, and the finished products it ships,

and its experience in the detection of overcharges on freight and express shipments is a logical criterion in substantiating the contention that overcharges amount to approximately 5 per cent of the freight paid.

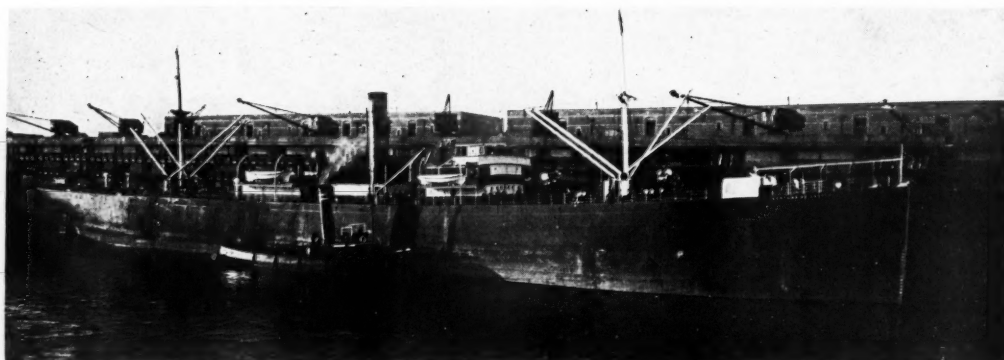
The small concern whose business does not warrant the maintenance of a traffic department, or some system whereby its freight bills are correctly audited, is, as a matter of fact, losing a certain percentage of the amount expended for freight, or, in cases where the freight is figured in the price of its products or service to customers, the customer pays this additional cost. It is obvious, however, that if some system were devised by which this saving could be effected, the products or service could be offered at a lower figure to the purchaser and, therefore, appeal to him as a more attractive proposition.

Several Ways of Checking Bills

There are several ways in which the small shipper can have his freight bills audited. One which has proven satisfactory to many is to have all freight bills checked periodically by some reliable freight auditing company. The charge made by such companies is usually 1 cent for each bill checked, plus a certain percentage of the overcharges found. These companies file the claims with the carriers for and in the name of their clients. The checks in settlement of such claims are sent direct by the railroad and express companies to the company for which the claim is filed. Companies performing this service invariably have in their employ a corps of traffic experts, and offer a free service to their clientele regarding transportation problems confronting them. In addition to this service they maintain up-to-date tariff files. As a result, they are in a position to furnish rates on all commodities between all points.

For those who do not have their freight bills audited another suggestion is offered, which will enable them to do

(Continued on page 44)



New York's camera of the future may never record cranes like these at Manchester

New York's Plans for Obsolete Piers Will Prevent Reduction of Nation's

HIGH DISTRIBUTION COSTS

In the ancient days only a Hercules would undertake to drive a giant octopus into the open and destroy it.

In modern days only the focus of a million minds will drive a "habit" into the open and destroy it.

NEW YORK CITY is planning to go into the business of building an ancient pier terminal devoid of modern methods of handling export, import and coastwise domestic trade.

The situation is described by far-visioned business men as "commercially criminal."

Construction of a terminal of the character purposed will do nothing to decrease the costs of the business of America's manufacturers, distributors and warehouse men.

The City of New York and the lessees of the piers will earn big profits through operating under antiquated methods; those profits will come out of the pockets of the producer of commodities and out of the treasuries of the men who traffic those commodities

through the port of New York. In turn the consumer will pay the bill.

New piers and wharves to cost from \$25,000,000 to

\$100,000,000 are to be built. In return for the expenditure of this great sum, here are a few of the facilities—and these are vital in figuring on reduced costs of distributing—which under the present construction plans **WILL NOT BE CONSIDERED** except on two of twelve piers which are to be developed on Staten Island:

Traveling cranes of the type installed at the Erie terminal in Hoboken and which, in operation daily, are saving many thousands of dollars a year in handling costs.

Floating cranes made by an American manufacturer and in operation in Government service, capable of

THIS is what Commissioner Robert W. Wooley, of the Interstate Commerce Commission, said before the Virginia Bankers' Association:

"At New York it was found that the expense of handling a car from the time it landed within the terminal limits of Jersey City until it was delivered to destination in Brooklyn or Manhattan, including lighterage, was approximately \$35. At Chicago it was found the cost of handling the same car within the terminal limits was \$10.35. At Binghamton, N. Y., the cost was \$1.80. San Francisco, with a municipally controlled terminal, has a flat charge of \$2.50 per car for handling within the terminal limits. . . .

"At New York the terminal sore spot of the nation, the utter injustice of taking care of \$35 per car in the line-haul rate—in other words, of making the innocent consumer over much of our land stand a tax that New York may continue to grow and monopolize the export and import business of the country—is impressing many of the big-minded citizens of our metropolis."

swinging and lifting 150 tons (300,000 pounds) as simply as a girl plays a skipping rope.

Industrial tractors and trailers such as have been installed at the New York Central and Pennsylvania Railroad and Bush Terminal piers and at the Army's supply base in Brooklyn.

Conveyors, hoists, overhead carriers, "trackless trains," elevator efficiency—a thousand and one other devices which serve to save manual labor.

Railroad trackage in and out of the shed on the piers.

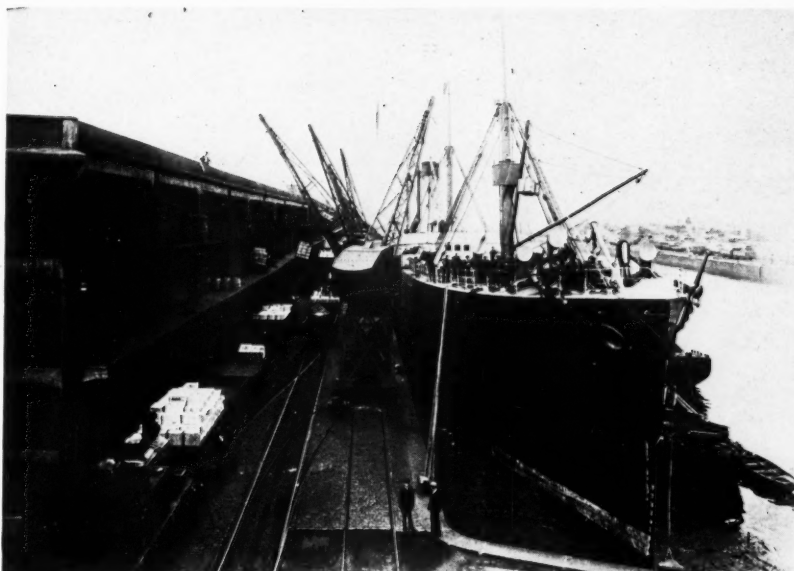
Modern warehouses, equipped with material handling machinery, in the area behind the pier line.

Trackage connection between pier sheds and even the unmodern warehouses.

Pier sheds of height greater than one-story.

Not only is it a fact that the pending plans do not provide for the installation of modern machinery; what is of greater importance is that ten of the twelve Staten Island piers to be constructed will

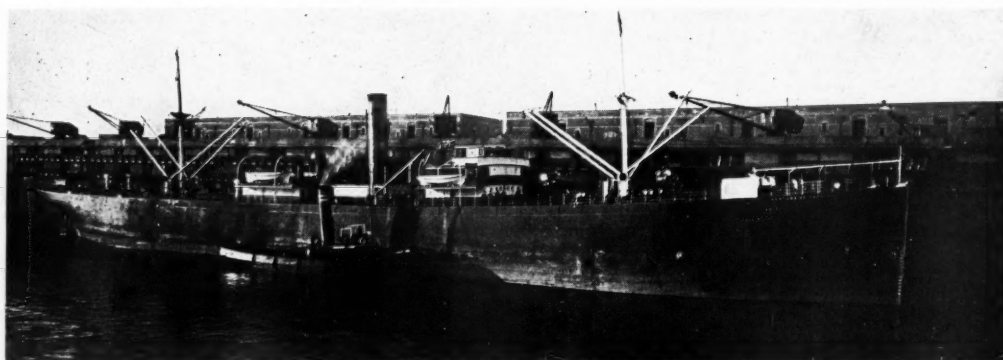
not have the structural strength necessary to enable such machinery ever to be used. The piers as planned will not bear the weight of freight trains. And the nearest



At Manchester — and as it should be at New York



The maximum of efficiency in cargo handling at Manchester — New York COULD have this!



New York's camera of the future may never record cranes like these at Manchester

New York's Plans for Obsolete Piers Will Prevent Reduction of Nation's HIGH DISTRIBUTION COSTS

In the ancient days only a Hercules would undertake to drive a giant octopus into the open and destroy it.

In modern days only the focus of a million minds will drive a "habit" into the open and destroy it.

NEW YORK CITY is planning to go into the business of building an ancient pier terminal devoid of modern methods of handling export, import and coastwise domestic trade.

The situation is described by far-visioned business men as "commercially criminal."

Construction of a terminal of the character purposed will do nothing to decrease the costs of the business of America's manufacturers, distributors and warehouse men.

The City of New York and the lessees of the piers will earn big profits through operating under antiquated methods; those profits will come out of the pockets of the producer of commodities and out of the treasuries of the men who traffic those commodities

through the port of New York. In turn the consumer will pay the bill.

New piers and wharves to cost from \$25,000,000 to \$100,000,000 are to be built.

In return for the expenditure of this great sum, here are a few of the facilities—and these are vital in figuring on reduced costs of distributing—which under the present construction plans WILL NOT BE CONSIDERED except on two of twelve piers which are to be developed on Staten Island:

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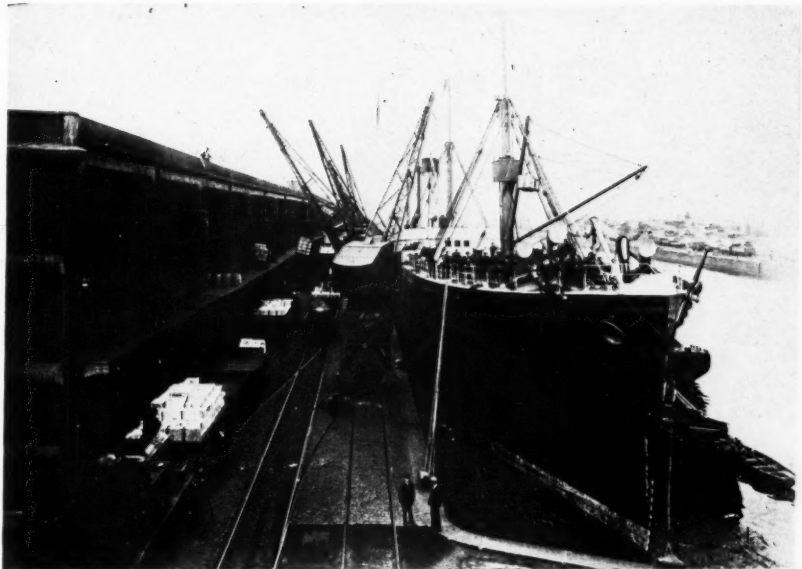
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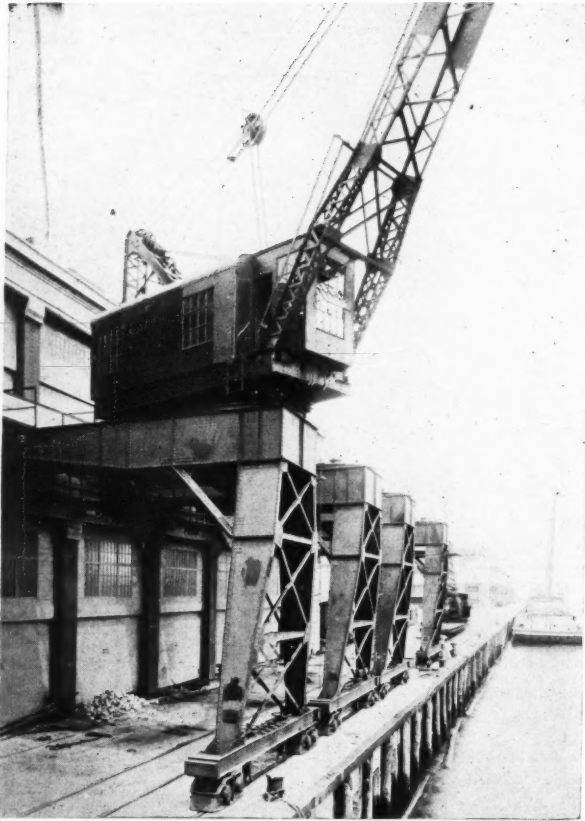
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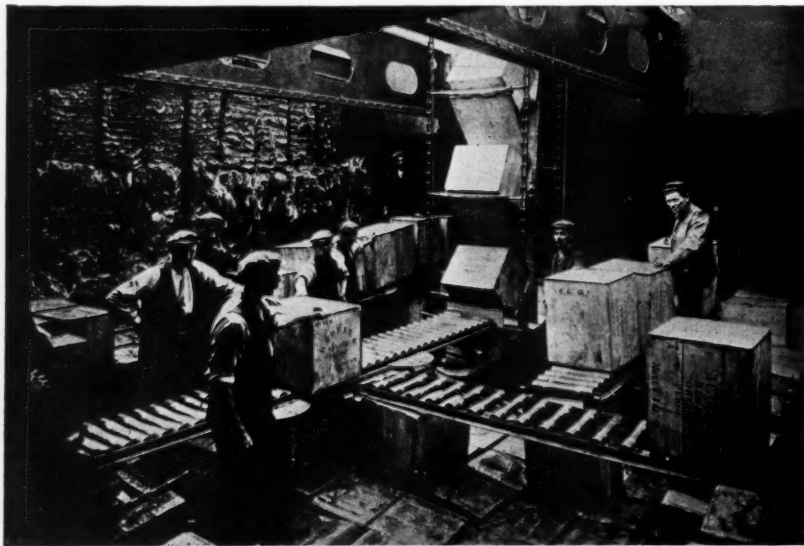


The maximum of efficiency in cargo handling at Manchester — New York COULD have this!



Staten Island piers not to have structural strength for semi-portal wharf cranes used at Army bases

points to which trains will be able to approach will be so distant that goods must be moved by motor trucks after the unloading from ships has first been accomplished by human labor.



Out of the hold

Narrowness of deposit space on ten Staten Island piers will preclude use of this type of machinery in loading and unloading vessels

Contrast this with England's \$80,000,000 port, Manchester. To quote the words of Grover A. Whalen, Commission Plants and Structures, who returned recently from abroad:

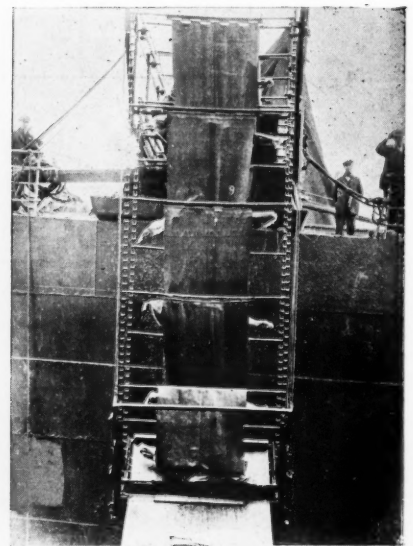
"At Manchester ships are unloaded, warehouses filled and trucks and cars loaded by monster cranes. Manpower seems to have become a thing of the past. One man operates a crane. He wears a belt equipped with an electric push button. He doesn't move more than a dozen feet in any direction, yet he controls the machinery that carries its burden anywhere he desires. It is almost uncanny. I should like to see the crane employed here in similar work. I am convinced it would revolutionize the loading and unloading of ships. New York must have less rehandling of freight. To effect this needed improvement we must build more warehouses on the piers, or so close to the piers that trains can run through the building and onto the piers proper."

No Thought of Installing Sidings

Yet no provision is being made in the Staten Island development for the installation of such trackage except on two piers. Compared with the terminal projects completed or building at many lesser ports of America, the monstrosity which is planned for the nation's metropolis will put New York to shame.

Of the twelve Staten Island piers, ten are to be of the same old type of narrow, cramped, single-deck, flimsy construction which has characterized New York for generations. Two, which the Pan-American Terminal and Dock Company will lease, are to be of the really modern kind, with tracks alongside the sheds, which will be two-story structures equipped with gantry cranes and other material handling machinery and with wide cargo deposit spaces outside the sheds on both the first and second stories. The Pan-American company has visualized the future.

New York has been described as the most congested port in the world. The confusion in the harbor was a handicap to the nation in the war against Germany. It



Over the ship's side

resulted in countless railroad freight embargoes which affected the entire industrial life of the nation. It was a contributing factor in the advancing cost of living. It made prices of raw products higher and the consumer had to pay more for his manufactured goods.

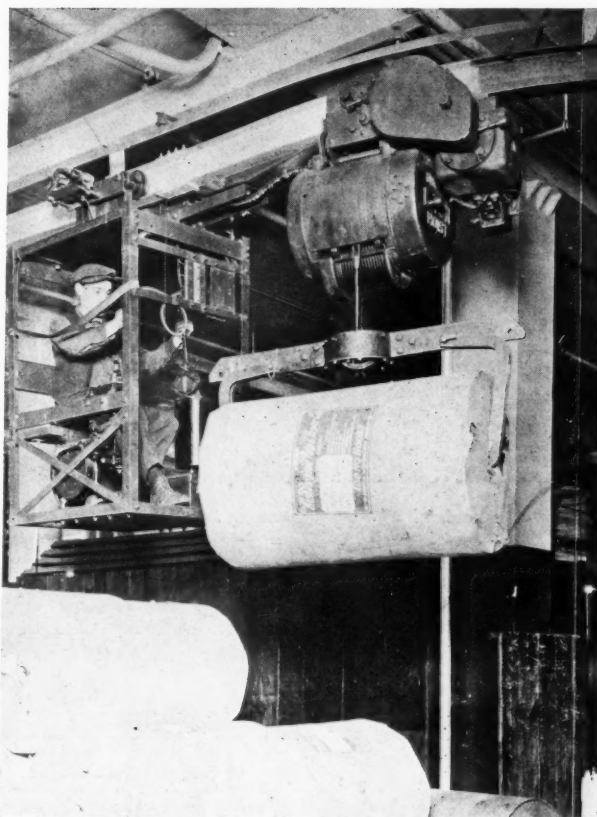
To-day it costs more per ton to handle food and merchandise on the piers of New York than it costs to transport the same food and merchandise all the way from Chicago to New York. To this distribution problem the plans for New York's new terminal piers offer virtually no remedy.

If these ten piers are constructed as designed, most of the freight will have to be handled in 1100 foot alleys, for that is what the average New York pier means to-day; and it will be handled almost entirely by manual labor. An engineering authority says:

"The companies which have leased these piers are to pay 7½ per cent rental. Mayor Hylan and the various city boards and Commissioner Murray Hulbert deserve full credit and even praise for thus protecting the city investment. However, this question is not a question of the construction of these piers being a good pier investment from a dollars-and-cents viewpoint. It is a well known fact that the city is constructing these piers in accord with the requests and desires of the lessees. It is also true that the operation of the piers by the lessees will make a profitable transaction for the lessees as well as for the city.

"The tremendously important and all important point at issue is the gross waste—an extravagant waste—involved in the making of this profit, which involves an unwarranted increased cost of everything which is purchased for or used by the citizens of the nation. There is profit in building and operating these old-time and out-of-date congestion-breeding types of piers; but the citizen pays this profit every time he buys anything."

Note that this engineering authority says that "it is a well known fact that the city is constructing these piers in accord with the requests and desires of the lessees." This same authority asserts that the city officials of New York have the power to refuse to make these leases



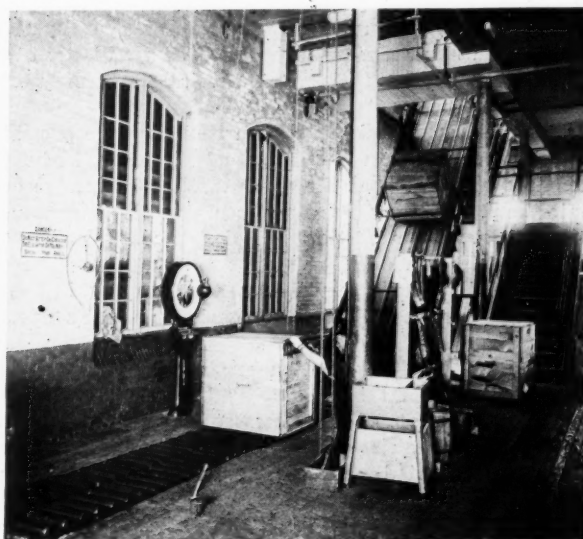
Monorail crane—Staten Island's flimsy sheds will not be strong enough for such machinery

unless the lessees agree to build modern sheds, with space for trackage and the use of modern machinery—sheds with the structural stability for cranes, overhead conveyors and kindred labor-saving devices.

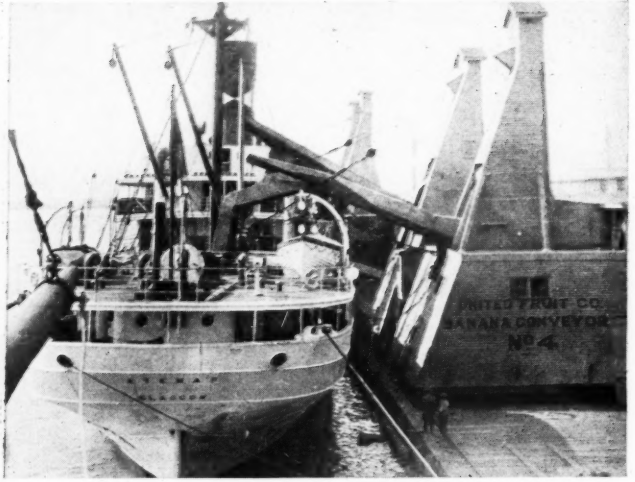
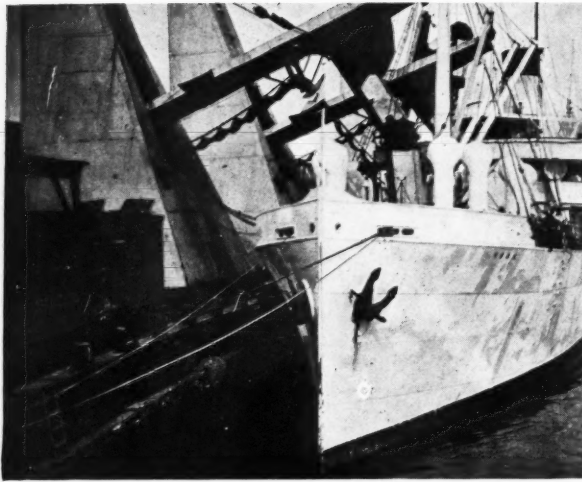
Possessing this power, the city officials may, if they will, go ahead with the building of piers not of the type planned but of the most modern design, equal to any-



Warehouses equipped for overhead monorail carriages not considered necessary



Nor do the plans provide for any class of conveyors for handling machinery or other heavy goods



Modern method of loading and unloading bananas, a commodity imported in large quantities through New York. In the Staten Island project no thought is given to this in the building of ten piers

thing which foremost engineering authorities have produced in Europe.

It is up to every American manufacturer who distributes through New York to exert his influence to this end.

The Port and Harbor Facilities Commission of the United States in a report a few months ago to the United States Shipping Board said:

"Emphasis is made upon the necessity of the installation of mechanical handling devices at all of our ports, both for cargo transference and for bunkering, as it is in these features in which our deficiencies are most evident."

For the Staten Island "improvement" there can be no such installation under the present plans.

William C. Redfield, Secretary of Commerce, addressing the Material Handling Machinery Manufacturers Association of New York, said:

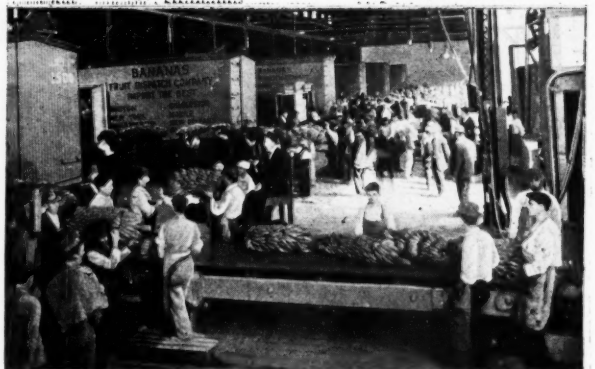
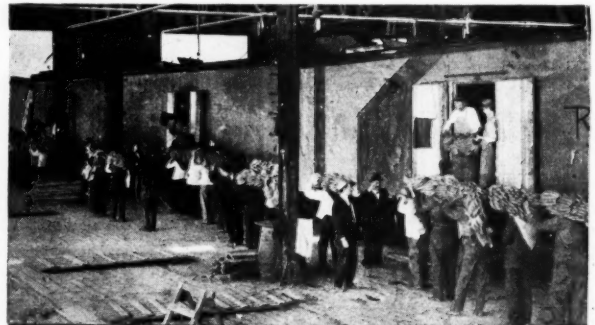
"If we are going to deal with the extravagant cost of handling and get it down to a basis proportionate to the cost of transporting, we must remember that, just as we cannot run a railroad without terminal yards, so we cannot by the mere installation of machinery turn a storehouse into a modern wharf. The whole system must come together."

Installation of machinery, even were it to be possible on the ten unmodern Staten Island piers, would be of negative value without the construction of trackage out onto the piers. The narrow width of deposit space would preclude any form of tiering and detiering machinery. This, notwithstanding that there are thousands of these cargo-handling devices in daily use in industry, in many cases these paying for themselves in one year's operation.

The facts in this situation are available to any researcher or official investigating body. Commissioner Robert W. Wooley, of the Interstate Commerce Commission, says that "at least half the export and import business of the United States is handled through the port of New York."

The Staten Island terminal project is not alone New York's business; it is the concern of the entire American manufacturing and distributing world. The nation's en-

gineers are interested also, as evidenced by resolutions adopted recently by the Society of Terminal Engineers. Approved by many of the leading terminal engineering executives of the country, this memorial urged New York's municipal authorities not to let any contracts for the Staten Island piers until the designs had been changed and new plans drawn for a terminal of modern type. The resolutions emphasized that this was the only opportunity on New York's waterfront for installing direct rail connection with piers. Attention was called also to the necessity of providing for the installation of mechanical handling equipment as a means of reducing costs of handling freight through the port of New York.



Old method of loading and unloading bananas—and "labor costs money"

Motor Trucks as Cotton Carriers

*How New England Is Solving a Distribution Problem—
Raw Products, Finished Goods and Produce
Moved More Cheaply Than by Rail*

THE motor truck is solving the problems of railroad delay and increasing freight rates which once handicapped the distribution business of cotton manufacturers in southeastern New England. Freight embargoes declared by the United States Railroad Administration as locally affecting Fall River, New Bedford and neighboring cities do not worry these producers in connection with their trade for export through the port of Boston or their domestic commerce within Rhode Island, Connecticut and Massachusetts. The highway has taken the place of the railed road as the marketing channel, and on the trucks which move cotton out through this channel is brought in return daily a great quantity of perishable foodstuffs which serve in a measure to reduce the high cost of living.

This long-distance motor truck service, operated by the Keogh Storage Co., of Fall River, covers approximately 8,000 ton-miles every twenty-four hours. A fleet of twenty-five vehicles—nineteen owned by the company and six hired by it—is constantly on the move, Sundays and holidays excepted. Raw cotton, cotton waste, cotton cloth, cotton yarn and finished cotton goods are carried along routes which touch Lawrence, Lowell, Salem, Lynn, Boston, Plymouth, Taunton, New Bedford, Fall River, Springfield, Worcester, Providence, Hartford, Putnam, New London, and many other points in New England. Other commodities are transported between the communities; and from Boston are brought, by return load, beef, fruit, eggs, cheese, butter and other produce. Virtually all of the fruit which reaches New Bedford and Fall River by way of Boston and Providence is brought on these trucks. Machinery is handled in large quantities.

A war-time development, the Keogh service has the support of Fall River's eighty cotton manufacturers and of the cotton goods producers of other southeastern New England cities. At its warehouse properties in Fall River the company assembles the shipments to be distributed from Fall River and there loads them upon

the trucks. Other trucks carry goods to cities in the immediate vicinity, discharge, and pick up new loads at the doors of the producers and proceed with these loads to other destinations. This chain of distribution is endless; its links are without number.

In the Fall River warehouses are kept great stocks of raw cotton sent north by the growers in the southern states. When sales of this product are made anywhere in southeastern New England by the southern growers, the Keogh firm receives orders where to deliver, and this system provides many loads for the trucks.

In Boston, the Keogh company maintains an office where arrangements are made for the return loads of perishable produce when the trucks reach that port.

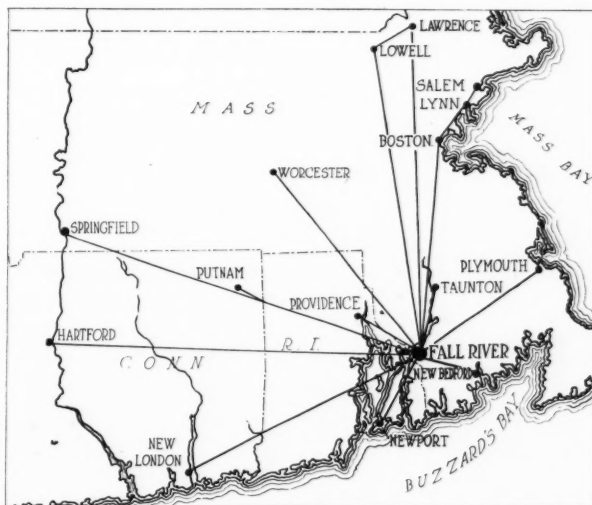
The company does not confine its distribution business to cotton, produce and machinery. Household goods

are moved longer distances, as into New York, Vermont, New Hampshire, when the consigner is ready to pay the additional expenses entailed when the truck crew has to remain overnight at the points of destination. Many consigners are willing to agree to this in order to avoid rail delay and the damage caused by re-handling in and out of freight cars.

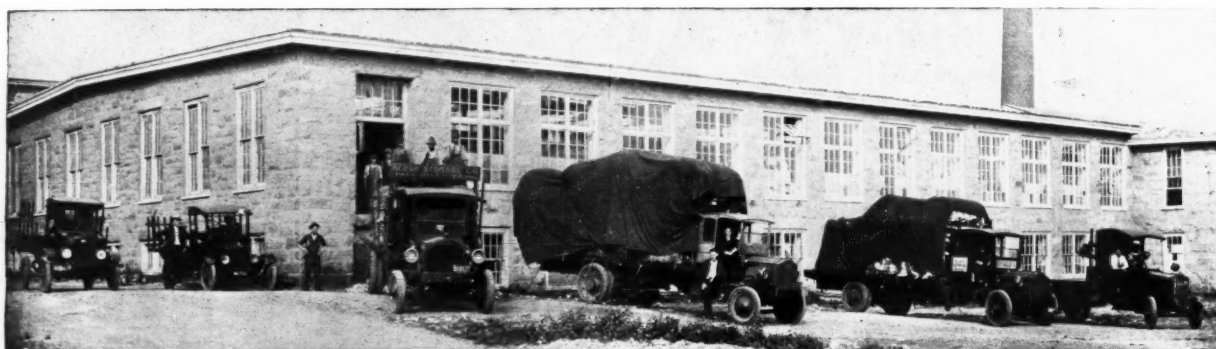
Another distribution phase of this motor truck system is the marketing of the products of Procter and Gamble, soap manufacturers of Cincinnati. These trucks are now taking care of virtually the entire southeastern New England trade of the Cincinnati

company's soaps, greases, cooking fats and lards. Procter and Gamble carry stocks in the Keogh warehouses, where they arrive in carload lots. A branch office is operated at Boston and salesmen go out after the retail business, and the Keogh trucks deliver the products sold in this way.

Moving an entire circus by motor truck is a distribution novelty which the Keogh trucks were called upon to handle recently. After playing at a county fair at Lincoln Park, between Fall River and New Bedford, the circus people asked to be moved by truck to train at Fall River. Five trucks solved this problem.



Territory covered by the Keogh Storage Company's long-distance motor truck service. The twenty-five vehicles used by the company in this service cover approximately 8000 ton-miles every twenty-four hours



One of the three Keogh warehouses at Fall River, used for general storage pending distribution. The three warehouses have a total floor space of 117,000 sq. ft. The plant shown has a floor space of 24,000 sq. ft.

The policy of the Keogh company is not to encourage patrons to request delivery of products beyond a radius of 25 miles from starting point on a single day. Twenty-five miles going and the same distance returning constitutes a day's run; a journey beyond that radius means an overnight stay with expenses for hotel and evening and morning meals, and the company is making no effort to expand its general business beyond a day's operation. The company is daily in communication by telephone with shippers in other cities and had made its business so well known that there is no difficulty in obtaining return loads.

Charge \$1 Per Mile Per Truck

The manufacturers who patronize this service find that their cost of marketing is less than when they distributed by rail. Cartage expenses are eliminated, the handling of goods is minimized and delivery to consignee is expedited. The load is picked up at mill platform and put down at consignee's platform. The Keogh company figures that the average cost to shipper is about \$1 a mile per truck, with the charge for carrying perishable goods being slightly higher.

For storage of products pending distribution three

warehouses are available—18,000 square feet of floor space in a one-story building, 24,000 in another one-story structure, and 75,000 in a building with six stories. These are all located in Fall River.

Future of Army Bases

(Continued from page 12)

around the turns. For short trailer movements tractors are not used, as one man readily handles on a four-wheeled truck two or three times the average load of a two-wheeled hand truck.

The whole plant is laid out in definite one-way traffic lanes, carefully calculated to afford maximum access and minimum congestion.

In addition to the yard movement this traffic system includes communication between the transfer sheds and warehouse "A" by way of three bridges which connect the second pier level with the third warehouse level, while additional bridges and subways under streets connect warehouses "A" and "B." This virtually eliminates the necessity for tractors and trailers to cross the railroad tracks in the yard or streets, as the goods moving between the first pier shed level and the warehouse floors travel by way of the pier elevators, the bridges, subways, and the warehouse elevators.

A Goethals Project

The Brooklyn base was constructed for the Traffic, Storage and Purchase Division of the War Department. Quartermaster General Goethals, director of this division, appointed Cass Gilbert as architect, and under Mr. Gilbert's direction and supervision the original conception was fostered and developed. The actual building was carried on by the Turner Construction Company under the Construction Division of the War Department, under the command of Brig. Gen. R. C. Marshall, Jr. Lt. Col. H. S. Crocker was Constructing Quartermaster.



A part of the truck fleet operated by the Keogh people. The vehicles make daily trips between Fall River, Providence, Boston and other New England cities, carrying principally cotton, waste and yarn one way and general merchandise on the return trip

WAREHOUSE DISTRIBUTION

Increases in Central and Southwest

Reports from Thirty Cities Indicate Merchandise Plants Are 80.9 Per Cent Occupied

Majority of Jobbers and Retailers Are Purchasing in Small Quantities

Labor Is Still Warehouseman's Major Problem

THE distribution and pool car activities of the merchandise warehouseman have increased between 10 and 25 per cent in some sections of the Central and Southwest during September, although reports from thirty cities in twenty-one States indicate that the majority of the manufacturers, jobbers and retailers, due to the uncertainty of the market, are purchasing on a very conservative basis.

The report also indicates that 80.9 per cent of the merchandise warehouse space is occupied. As in August, labor is the major problem of the industry. Other considerations which are affecting the industry are inefficient service furnished by the railroads; how to get enough business so as to realize a fair profit on the investment and how to meet competition of new firms that have recently been established and which have no conception of how to compute their rates according to the service rendered.

The Central and Southwest are the two sections where the manufacturers, jobbers and retailers are purchasing in the largest quantities. At Fort Worth, Texas, the heaviest buying is in the dry goods line, while at San Antonio a larger fall and winter stock is being purchased than in many other sections. At St. Paul, Minn., the manufacturers and jobbers are purchasing in good quantities. Practically all merchants are doing a record business, no particular line having any preference. Steel and brass are the items being bought in large quantity at Kokomo, Ind. Large stocks of a number of different commodities are being ordered by the jobber at Des Moines, Iowa. It is a fact that the Des Moines jobbers are placing larger orders than the manufacturers have been able to fill. Canned goods and general groceries are being purchased in good quantities at Davenport, Iowa.

Jobbers Purchasing in Small Quantities

The jobbers and retailers in practically all other sections are purchasing in small quantities, many of them far below the average for this time of the year. They are holding off as long as possible before stocking up, thinking that there may be a big change in the market.

Pool car distributing is increasing rapidly with the St. Paul, Minn., warehousemen. It is the opinion of the warehousemen in that city that this business will continue to increase for some time. The reasons for the increase is that the manufacturers are gradually transferring this business from the teaming firms to the transfer and storage companies having track and warehouse facilities, and because of the fact that they are better equipped to attend to repairs or bad order packages and to hold rejected or surplus goods.

Flour is being distributed in the largest quantity at Sandusky, Ohio; while at New Orleans coffee and Garbanzos peas, and flour, sugar, roofing and newsprint paper are receiving the largest movement at Elmira, N. Y. During the past month the distribution activities of a warehouseman at Davenport, Iowa, have increased 25 per cent. This increase represents foodstuff and general commodities. A San Antonio plant has also increased its distribution 10 per cent during the same period. The distribution activities of a Fort Worth warehouseman has also increased 25 per cent during the past month.

Labor Is Major Problem

The cities which are confronted with problems of a major importance—those which have a greater bearing on the warehouseman's business—are as follows:

WEST—Four cities, Denver, Colo.; Butte, Mont.; Oakland, Cal., and Portland, Ore., are confronted with labor unrest. Inefficient railroad service, such as a shortage of cars, etc., is a problem which the Tulsa, Okla., and Salt Lake City, Utah, warehousemen have been unable to solve. Some of the Tulsa warehousemen are looking to see how they can best secure a larger volume of business in order to earn a fair profit.

CENTRAL WEST—Labor is the subject which is being given considerable attention by the warehousemen at Kokomo, Ind.; Des Moines, Davenport, Iowa; Sandusky, Ohio; Kansas City and St. Louis, Mo. Inefficient service furnished by the railroads is the problem confronting the Davenport warehouse industry.

SOUTHWEST—Phoenix, Ariz.; El Paso, Ft. Worth and San Antonio, Texas, are the four cities where the warehousemen are affected with labor trouble. The other problems in this section are inefficient railroad service and the poor condition of the highways, due to the heavy rainfall.

Atlanta Transacting Big Business

EAST—The merchandise warehousemen in many cities of this section are confronted with unintelligent competition—in other words, price-cutting by new firms recently established, and others which are doing their utmost to get business at any price. The cities where this condition exists are New York, Elmira, Philadelphia and Baltimore. Labor is also a subject of much importance to practically all warehousemen in this section. There has been a material change for the better in railroad conditions in the East during September, although there still is much congestion at various intervals. The freight car

(Continued on page 41)

■ Editor's Page ■

The Warehouse Cost System

THE warehouse enters directly into the distribution expenses of the majority of American manufacturers.

The warehousemen are organized nationally. Whatever they endeavor to accomplish as a co-operative unit the manufacturer should make it his particular business to know about.

At this time the American Warehousemen's Association, comprising nearly three hundred of the nation's leading exponents of this expanding industry, is making an effort to have adopted commonly by all warehousemen a revised cost handling system. If this idea attracts the widespread approval sought, the traffic manager is going to have something enlightening to place before the manufacturer who employs him.

A central bureau of information, to serve as a clearing house for the members of the American Warehousemen's Association, has been established at Pittsburgh. It is working out a standardization of basis for rates of storing and handling the merchandise which its members store or distribute for manufacturers. It is conducting a campaign to acquaint all warehousemen with the opinion of the leaders of their industry that acceptance of a revised form of cost account system will bring higher returns on the money invested in their properties.

The warehousemen who are behind this movement say emphatically that bankruptcies among themselves have been the more common because returns on their investments have

in many instances not been equivalent to "fair compensation."

The situation is one which deserves the wisest reflection on the part of the manufacturer and the traffic executive. TRANSFER & STORAGE does not for a moment question the sincerity of the warehousemen who are in the lead in this movement. It is a fact that one manufacturers' organization did question their sincerity and did attribute to New England warehousemen motives which the manufacturers characterized as nothing less than profiteering.

It is not to be supposed that the warehousemen will concede that they have any ulterior purpose. But to avoid any suspicion of this—to preclude any questioning inquiry by alert traffic executives—the warehousemen should take manufacturers into their confidence without delay.

The warehouseman says he is ready to do this. The manufacturer should meet him half way. The American Warehouseman's Association is to discuss the subject openly and in detail at its Cincinnati convention in December. The Association, through its president, George S. Lovejoy, invites the manufacturer and his traffic executive to be present.

This is a get-together opportunity which the manufacturer cannot afford to neglect. Standardization of costs is not the only problem of mutual interest which will come before the convention. But it is the chief one and is of vital importance.

Defeat These Plans!

IN the days when "clipper ships" sailed the seas there was no necessity for constructing great piers equipped with steel rails for cargo-laden freight trains; in that era were built "wharves" not designed to accommodate the marvelous labor-saving machinery since invented for the mechanical transference of raw and finished products into or out of the holds of vessels.

To-day, New York, which handles half the nation's import and export commerce, is planning to inflict upon itself ten piers of the "clipper ship" type—a terminal obsolete,

wickedly unmodern, representative of narrow vision, certain to attract the ridicule of the world's foremost industrial and engineering executives. The story of its construction will be the story of a lost opportunity.

Every producer, every manufacturer, every distributor and every warehouseman in the United States has a direct interest in New York's neglect of the nation's commercial future. The handling costs of the freight which passes through the port are excessive in comparison with those at other American seacoast harbors. They are excessive because

New York has not been building the right kind of piers—piers equipped with adequate trackage connection to railroad lines and to great warehouses.

Unless pressure is brought to bear on New York's city officials and on the companies which are to lease the Staten Island piers, another terminal of negative worth to the nation is to be "developed."

It is the duty of the Chamber of Commerce of the United States, of the Chamber of Commerce of the State of New York, of each organization of manufacturers, traffickers and warehouse owners, and of all other organized bodies of commercial and trade character in the country, to protest against what is going on in New York.

Federal intervention is not too much to ask.

Chart Your Traffic Business

INQUIRIES received by **TRANSFER & STORAGE** from traffic managers from time to time tend to confirm a suspicion that too many of these officials, particularly some who are employed by the smaller manufacturing companies, are not traffic students. They do not possess, as they should, a general knowledge of tariffs. Their method of shipping is to turn their goods over to the railroad companies and let railroad operatives do the routing. This routing may or may not be as cheap as the one the traffic manager himself would select were he to have a general knowledge of rates and the classification tables and with the country's rail map.

The least the traffic manager should do, if he intends to let the railroad employees do his work, is to make the intimate business acquaintance of the general railroad freight agent in his immediate vicinity.

In a certain New England industrial center the general freight agent is consulted daily by fifteen or twenty traffic managers—and the money he saves for them through his expert advice on routings, runs into many thousands of dollars annually. The purpose of this freight agent, of course, is largely a selfish one; he has in mind the interests of his employers, the United States Railroad Administration, which is endeavoring to decrease the amount of

freight car shortage. But for the traffic managers his counsel is invaluable.

Location of terminal and transfer points, the routes followed by the many railroads, the classification taken by given commodities, the carload and less than carload rates on those commodities, the rail and water transportation schedules in relation to time occupied in sending goods forward—knowledge of all these fundamentals is essential to the profitable conduct of the business of the distributing manufacturer.

The traffic manager should inform himself, too, regarding warehouse conditions in the cities which are his distributing points, and in the cities where it is to his advantage to maintain stocks of his employer's finished goods.

On another page of this issue of **TRANSFER & STORAGE** is presented a chart prepared at the request of a Duluth manufacturer who had a distribution problem which perplexed him. There is not a traffic executive in the country who cannot work out a similar diagram applicable to his own routings. It is a fact that in each manufacturing business there are not more than one or two men familiar with traffic conditions; the use of a chart of this character would enable a distribution executive to acquaint other men in his employer's business with a situation too little understood.

The Army Bases

NEWSPAPER reports emanating from Washington forecasting the leasing soon of the Government's great war-time supply bases to commercial interests are, in the opinion of many Army officers, premature. A Federal board has made a survey of these properties, but its recommendations to the War Department have not been made public. Officials identified with the Army plants declare it will be from five to ten years before the manufacturing and warehousing world will find available for their uses any great amount of these facilities.

If this is true, it means that private interests must build their own waterfront terminals and warehouses to meet the needs of the first decade of the reconstruction period.

While the Government may not release this millions of dollars worth of property to commercial business for a long time to come, it is certain that the official secrecy enforced during the war will be withdrawn, and that manufacturing, traffic and warehouse executives will be allowed unrestricted privileges to examine what Yankee genius has accomplished.

American industry will not forego this opportunity. It cannot afford to. International trade rivalry will compel it to model upon these Army achievements, which are timely illustrations of what must be done at the great coastal, lake and river ports and at rail centers if the urgent requirements of the near future are to be met adequately and support given to the merchant marine expansion.

LOOK BEFORE YOU BUILD! REDUCE TRUCK MILEAGE

Adjacency to Railroad Minimizes Drayage Costs

**MINNEAPOLIS COMPANY CONNECTS ITS WAREHOUSE WITH
CARRIER BY RAIL AND PLATFORM—DISTRIBUTOR
IS THE BENEFICIARY**

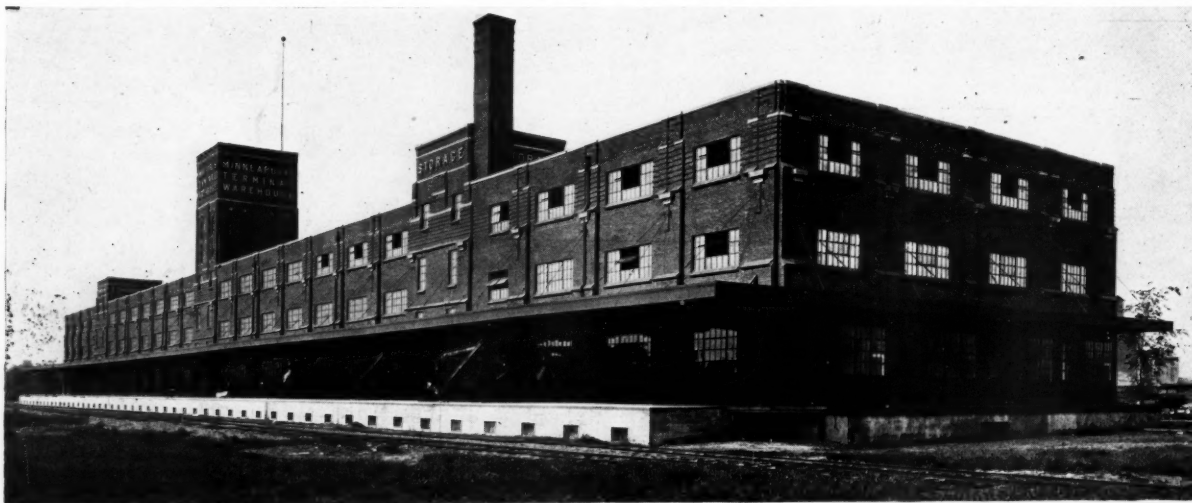
LOCATION, architectural design and the distribution needs of customers are too often left in the background by the man who enters the warehouse industry with hope of establishing a successful business and earning large profits. Proximity to the rail or water carriers is essential to that success; equally important is the lay-out plan of the building in which the business is to be housed and conducted; and not less necessary is knowledge of the certainty that the manufacturer whose patronage is to be attracted must be provided with modern accommodations and methods of reducing costs if that patronage is to be retained. He who enters the warehouse industry in this after-the-war era of America's trade expansion must be awake to all these fundamentals. He must be foresighted and forehanded. The warehouse of the future cannot be the warehouse of the past and keep pace with the times.

This situation, involving all these details and anticipating many other new problems, was recognized by the Minneapolis Terminal-Warehouse Co., which opened its big structure for service early this year. A site in the city's new industrial section was chosen; but, what was

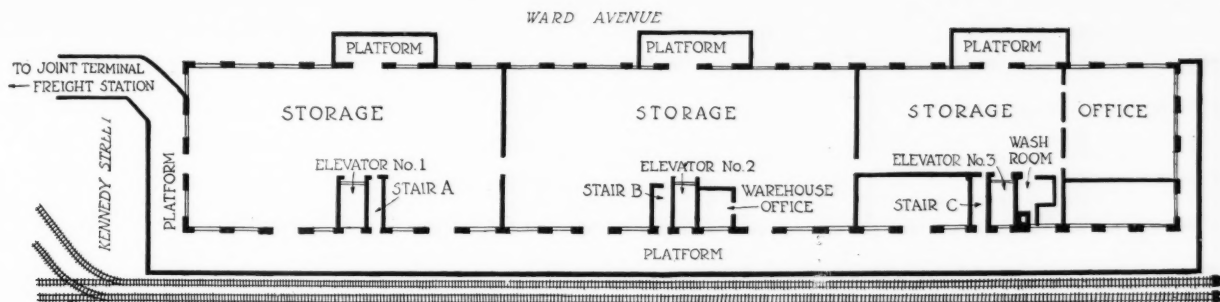
considered of kindred importance, this location was selected because of its adjacency to the city's only joint transfer railway station having direct trackage connection with all railroads, nine in number, which enter Minneapolis from the prosperous Northwest. Construction was planned to conform to these natural trade arteries. The distribution requirements of the manufacturers who are to-day sending their goods forward through these rail channels were considered and the warehouse was planned and constructed accordingly.

Ideal Merchandise Distributing Terminal

With its one warehouse occupying an area of approximately 85 x 500 feet on 8 acres of land, the Minneapolis company is looking into the future. The structure is the first of a group of buildings in contemplation and other construction will be undertaken as speedily as the volume of new business warrants. The company's aspiration is to maintain its plant as "the ideal merchandise distributing terminal of the great Northwest"; and its promise to manufacturers, based upon unusually advantageous rail connections, is "quickest possible



The Minneapolis Terminal Warehouse comprises all facilities of modern warehousing. The plant is 85 x 500 ft. on 8 acres of land and has a floor space of over 127,000 sq. ft. of space



Layout of the first floor of the warehouse. The platforms shown at the top are for teams and trucks. At the right of each of the platforms is an incline so that trucks may drive into the warehouse when necessary

service, free from switching, draying and transfer charges."

This promise is emphasized by the company in its correspondence with customers, present and prospective. The nine railroads which penetrate the Northwest from Minneapolis have a joint terminal freight station. The company has so arranged its main platform, which is 500 ft. long and 20 ft. wide and made of concrete, that it is paralleled by tracks which lead direct to this terminal freight station, which is 600 feet distant from the warehouse.

This strategical double-spur track-connection advantage is now being supplemented by the construction of a platform which will connect the plant's main unloading platform with the terminal freight station. This improvement, when completed, will enable the company to reship its freight, without drayage expense, by electric industrial tractors equipped to haul small trains made up of ordinary warehouse trucks. This feature, assuring both economical and rapid movement of goods between warehouse and rail terminal, was considered by the designers when the building was put up: it was with this very thought in mind that the platforms were constructed with ample room for handling the largest units of merchandise, such as tractors, automobiles and grain separators. The narrow platform so common to many warehouses, and on which congestion tends to eat up economy, is not tolerated here.

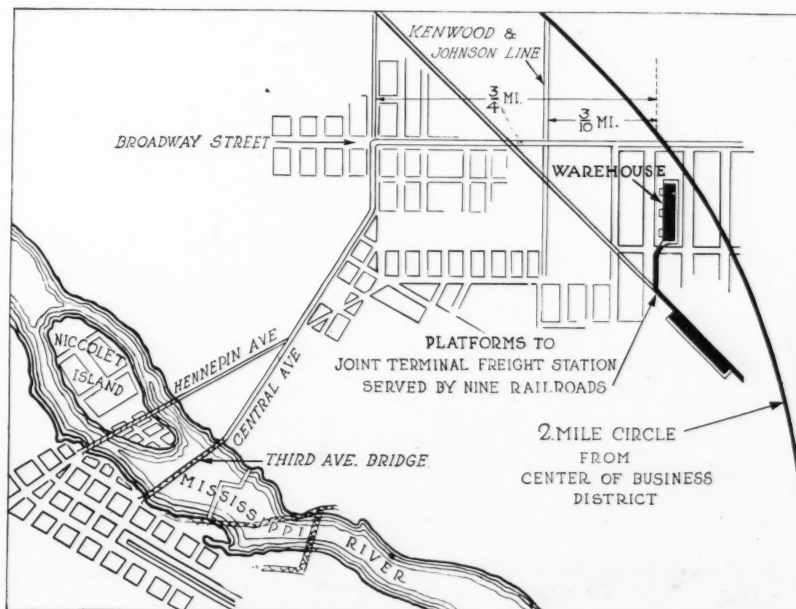
Pending the completion of the platform extension from warehouse to terminal, the present system of handling l.c.l. shipments—by trap car service along the double-spur tracks—is being continued. When the extension has been built it will be possible to avoid even the occasional delay in waiting for the assembling of 6,000 lb. of l.c.l. shipments, which is the minimum weight transported in trap cars. For this class of goods the truck and trailer will displace the trap car.

In addition to the 500 x 20 ft. main platform paralleled by tracks, there is one 15 ft. wide traversing the side of the warehouse which faces toward the city. This platform is accessible to highways which lead for

2½ miles into the business center of Minneapolis, thus offering advantages in loading teams quickly for city delivery. This platform is in three sections, one for each of the three sections into which the warehouse is divided, and six or more teams or trucks can be loaded at each section at one time.

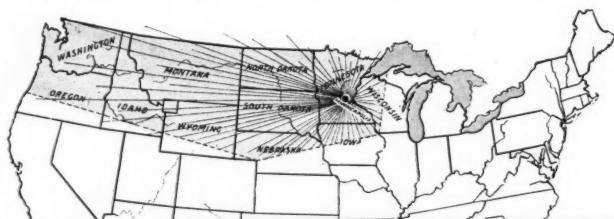
Establishes Show Rooms at Warehouse

The character of the service which the company aims to offer the manufacturer is illustrated by the use which the James Manufacturing Co., of Fort Atkinson, Wis., is making of the facilities available. The James people turn out a complete line of dairyfarm equipment and its heavy volume of business is contracted with customers in the Northwestern tier of states. In its campaign to develop this territory intensively, the James firm has established a Minneapolis office. To be able to show prospective buyers its complete line of goods a display room is essential. To make prompt delivery to customers a stock of every article manufactured must be carried. This is where the Minneapolis Terminal-Warehouse Co. promises efficiency and economy. On a square



Drawing showing location of the Minneapolis Terminal Warehouse in its relation to the business or jobbing center of the city. The business center is shown at the lower left. Note the platform connecting with the Joint Terminal Freight Station, which is served by nine railroads

THE IDEAL MERCHANDISE DISTRIBUTING TERMINAL OF THE GREAT NORTHWEST



LOCATION

In the Minneapolis industrial district with trackage at the only joint freight station in this city. Furnishes direct trackage connections on the nine railroads covering the Northwest, giving quickest possible service and free from switching, draying or transfer charges.

COST

Storage and labor rates, determined according to relative bulk and weight will be furnished on request.



Reproduction of a portion of one of the Minneapolis Terminal Warehouse Company's circulars calling attention to the territory that may be served efficiently from Minneapolis. This circular is distributed to manufacturers and shippers located throughout the West and Central West

foot basis it rents to the James people office space and storage space. The office space is adequate for a district manager and clerical force for ten traveling salesmen, the office personnel being between fifteen and twenty persons. The James firm uses from 25,000 to 30,000 sq. ft. of warehouse space, and next year expects to increase its capacity.

Similar service is accorded to facilitate the sale and distribution of goods of the Northwestern School Supply Co., which occupies about 55,000 sq. ft. of space, including office room for between thirty and forty persons; and several other large manufacturing concerns are negotiating for space. This demand, coming during the infancy of the Minneapolis company's business, has warranted preparation of plans for another building which when erected will double the present floor capacity, which is 160,000 sq. ft.

The minimum rate per square foot for this rented space is 3 cents on large quantities, based on cost of construction and overhead expenses. On smaller quantities the rate is gauged, according to amount of goods, up to 7 cents per sq. ft. In return for this payment, the manufacturer has an attractive display room partitioned off and completely outfitted; he has moreover, in another section of the warehouse, room for a full surplus stock of every article he produces. Thus the manufacturer is in a position to give his customer the same service which can be furnished at the factory itself.

The Minneapolis company informs its patrons of another advantage offered by its warehouse: manufacturers and distributors who do not desire to maintain full warehouse crews can have their commodities handled by the company on a tonnage basis, which is uniform with its customers, the rate being on file with the Minnesota Railroad and Warehouse Commission, to which the company is bonded for \$50,000. Merchandise from the smallest of packages to the largest is handled.

The rectangular, three-story-and-basement structure has heavy fire walls separating its three sections. Each section is approximately 85 x 166 ft. and is served by a

heavy duty freight elevator located in the center of each section. Two of these elevators are of 4,000 lb. carrying capacity each and one is of 6,000 lb. The type of the building is heavy mill construction, with a floor load capacity of 250 lb. per sq. ft. on the first floor. The structure is equipped with sprinkler system throughout and the company obtains an insurance rate of 25 cents on contents.

The construction idea of the company in erecting a building of moderate height but with large dimensions was that this type of structure should prove more adaptable for the handling of goods quickly, efficiently and economically, with a material conservation of the time of the warehouse labor. Moreover, the company impresses upon its patrons that its facility for direct handling and distribution of l.c.l. freight to nine railroads through a common terminal is "not found elsewhere west

of Chicago"—an advantage which, it explains, affords manufacturers and distributors "an economical means of 'parceling out' carload shipments to their customers throughout the Northwest without extra delay or cost as is usual without these terminal facilities."

The geographical position of Minneapolis, the economic status of the Northwest after the war, the unprecedented prosperity of the territory as a result of a succession of enormous crops of grain which have sold at high prices, the prospect of another bumper crop and the consequent demand for farming machinery and implements of all types, the prospect that luxuries would roll into the Northwest in exchange for the dollars which represent this prosperity—all these are to be regarded as signs of the times, in the opinion of progressive warehousemen. Minneapolis, sometimes called "the gateway to the great Northwest," is strategically situated to handle great volumes of this trade. This was the stimulus to the establishing of a modern warehouse business close by the consolidated transfer station which unlocked the freight door of that gateway.

It is logical to assume that other warehouse firms in Minneapolis are cognizant of this situation and that they are planning accordingly. In this connection, the Central Warehouse Company of that city announces completion of a new building, 100 x 50 feet square, to be devoted to the needs of distributors.

DEPARTMENTIZATION

(Continued from page 13)

the organization chart is that the business is now being operated on a more efficient and economical basis than heretofore.

Since the organization chart was adopted, the employees are better satisfied in that they know to whom they are to report. In addition to this, the company has found much lost time is eliminated, because the employees know where to get the information they need.

WAREHOUSEMAN IN THE TRACTOR INDUSTRY

Distribution Opportunity to Handle Farm Machinery

—Sales—Storage—Service

THE development of the tractor in American agriculture opens up a new field for the warehouseman. The business of manufacturing this type of farming machinery has made such rapid strides that it is not inaccurate to state that the man who stores and transfers commodities has not been awake to a profitable opportunity.

A majority of the foremost tractor makers have produced in such volume to meet steady and increasing demands that the warehouseman has been of little service to him except in isolated instances and in territories remote from strategical transfer points. Instead, these manufacturers have established storage points of their own at jobbing centers and from these they do their own distributing. Their salesmen radiate from these branch houses, and the tractor reaches the farmer without having passed through a warehouse.

Warehouses Soliciting Business

It is not too late, however, for the warehouseman to obtain tractor business, and correspondence received by TRANSFER & STORAGE from virtually every section of the country indicates that the storage and transfer industry is anxious to handle farm machinery—both tractors and motor trucks and also the farming implements which are identified with those vehicles.

"At the present time we have some space for farm tractors," writes a warehouseman in Dallas. One in Albany sends this appeal: "We would appreciate it if you could give us the names of tractor concerns which you know are looking for space." From Cleveland comes a letter containing the following: "If you have any requests for storage space from manufacturers of farm tractors in this section we would be glad to have you refer them to us, as we have adequate space providing they take quick action."

Farm Machine Industry Expanding

There are at least twenty tractor manufacturers in the United States who have not yet adopted the system of establishing branch houses generally. Each expects its volume of production to increase, and this growth of business will require expanding distributing facilities.

It is up to the warehouseman who has tractor storage facilities to go after that distributing business at once—to forestall the necessity of the manufacturers establishing their own branch houses in his territory. The way is open now for the warehouseman to afford space in his plant for manufacturers to open salesrooms; this co-operation in the way of developing new business for the tractor

makers would reap its own reward for the storage man, who would in time become an important distribution cog in the tractor wheel of industry.

In Nebraska and in North Dakota there is a State law which requires the tractor producer in that State to concentrate stocks of tractor repairs commensurate with the volume of his production and within ready access to buyers. The tendency is toward the adoption of similar statutes in other States, particularly in the great farming regions. The wise tractor maker to-day is endeavoring to forestall the necessity of such legislation State by State; he is voluntarily creating service stations, so that the farmer does not have to send to the tractor maker's head office for repairs, but need turn only to the nearest service station.

Here lies the opportunity for the live warehouseman to operate a combined sales office, storage and transfer business and service station on behalf of the growing tractor manufacturing company.

"Prospects"

The possibilities of establishing such a business connection are worth looking into by the scores of warehousemen who have appealed to TRANSFER & STORAGE to help them fill their warehouse space with farm machinery. In response to numerous requests for the names of tractor manufacturers who might be likely "prospects," the following list has been compiled:

Allis-Chalmers Manufacturing Co., Milwaukee.
Appleton Manufacturing Co., Batavia, Ill.
Cletrac Tractor Co., Cleveland, Ohio.
Dayton-Dick Co., Quincy, Ill.
Eagle Manufacturing Co., Appleton, Wis.
Electric Wheel Co., Quincy, Ill.
Frick Co., Waynesboro, Pa.
General Ordnance Co., Cedar Rapids, Iowa.
Illinois Tractor Co., Bloomington, Ill.
Joliet Tractor & Manufacturing Co., Joliet, Ill.
Minneapolis Steel & Machinery Co., Minneapolis, Minn.
Monarch Tractor Co., Watertown, Wis.
Nilson Tractor Co., Minneapolis, Minn.
Ohio Manufacturing Co., Upper Sandusky, Ohio.
Peoria Tractor Corporation, Peoria, Ill.
Pioneer Tractor Co., Winona, Minn.
Square Turn Tractor Co., Norfolk, Neb.
Topp-Stewart Tractor Co., Clintonville, Wis.
Turner Manufacturing Co., Port Washington, Wis.
Wisconsin Farm Tractor Co., Sauk City, Wis.

How to Work Out a **DISTRIBUTION CHART**

HAS MANY ADVANTAGES FOR THE SHIPPER

Here Are a Few of Them

- 1—*Does Not Require Small Manufacturer to Have a Complete Set of Tariffs.*
- 2—*Any Rate to Principal Cities Where the Manufacturer's Products Are Sold May Be Determined at a Glance.*
- 3—*Will Show How Goods May Be Shipped to Cities Between Distributing Points at the Lowest Freight Rate.*
- 4—*On a Special Request from a Customer Goods May Be Routed so as to Reach Destination in Shortest Possible Time.*

GREATER efficiency and economy in distribution may be secured by the manufacturer working out a chart which will designate the freight rate on his particular commodity shipped from the factory to the various cities where the product is marketed. Such a chart will enable the national distributor to give his customers a better service due to the fact that he will know how to route his goods so that they will reach destination in the shortest period. It will show the national distributor how he can ship to cities located between two distributing points at the lowest rate. The latter method of shipping refers to the manufacturer maintaining several factories or carrying spot stocks at various distributing centers.

Such a chart will be of much assistance to the large manufacturer, maintaining a large traffic department with a complete set of tariffs, as well as the small one who may or may not employ a traffic man, and who does not specialize in routing so as to receive the lowest transportation rate on merchandise shipped outside of a certain zone. Practically every traffic man knows the rating on his commodities shipped within a certain zone, but outside of that zone he has little conception of rates, unless he represents a large manufacturer who has a complete set of tariffs. Considering the number of manufacturers whose products are known the country over, those who maintain a complete set of tariffs constitute a small percentage.

How to Prepare Chart

Preparation of a distributing or routing chart similar to that shown on the opposite page will not require an enormous amount of study unless the distributor desires to have the exceptionally small cities inserted. To get such a chart up, it will, of course, require some knowledge of the following subjects:

1—The traffic man or whoever may have charge of the routing must have a geographical knowledge of the country.

2—He should have a general knowledge of the location of the principal terminal and transfer points and the

routes or territory also covered by various railroads.

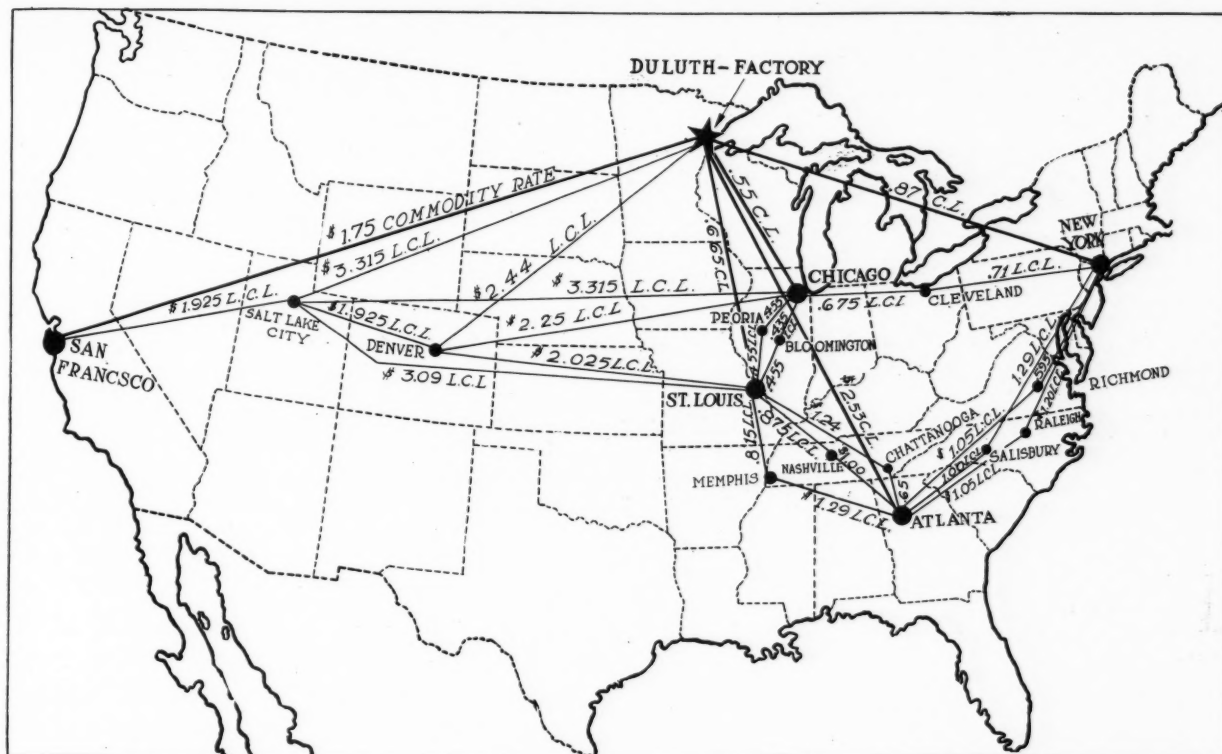
3—It is necessary that he should know what class his merchandise takes in the Official, Central, Western, Southern, Illinois and Texas Classifications. If he does not know the class his goods take, it will be impossible to work out the correct basis upon which his freight rates are figured.

Such information may be obtained by writing to the Chairman of the Classification Committees for a copy of the classification.

Traffic Man Should Know Tariffs

4—The traffic man should know the carload rate his goods take in shipping from the factory to the distributing point or warehouse where the spot stock is carried; the carload rate from the distributing point to the cities where the goods are marketed—at least, to the largest cities or those where the greatest portion of the goods are sold. This is particularly necessary when a shipment is consigned to a city which is located at the approximate dividing line or near the center between two distributing points or warehouses, so that the routing of the goods will be from the distributing point which will enable him to receive the lowest rate. He must also know the less carload rate from the factory to the cities where the goods are marketed, especially those furthest away from the distributing points and those nearest the factory.

Of course, where the manufacturer employs a large traffic department equipped with a complete set of tariffs, it is a simple matter to get the desired information any time it may be needed. But it is the manufacturer that is not equipped with such tariffs that finds it one of his big problems. Any information in regard to tariffs may be secured from the general freight agent of the roads in which the manufacturer is interested in shipping his merchandise. This means that the manufacturer will have to write to the general freight agent of each road, giving a description of the goods or the class they take in the particular classification under which the railroad is operating.



A DULUTH MANUFACTURER'S DISTRIBUTION CHART

The large solid circles indicate distributing points where spot stocks are carried. The smaller circles indicate a few of the principal cities where the Duluth product is marketed. The figures above the lines connecting the factory, warehouses and cities are the freight rate based on a Duluth product. Such a chart will assist a manufacturer in shipping at the lowest rate and in the quickest time. In other words, it will reduce much lost time in looking through tariffs, etc., in order that goods may be shipped by the best route. The chart may be made of further use by inserting the name of the railroads operating to certain cities and the time required to make such a shipment.

5—Besides having a knowledge of the above subject, the traffic man must also have some conception of the time it takes to ship goods from the factory and distributing points to the various cities, particularly those where the largest quantity of his products are sold. Of course, it is the work of the traffic manager to see that all shipments are routed at the lowest rate, but by knowing the time it will require to ship to various points, a better service may be given the customer. For example, where a special request has been made that an order be filled in the shortest possible time, the goods may be shipped over the shortest route regardless of the freight rate.

After the traffic manager has obtained the necessary information referred to in the five principles of shipping, he can begin to develop a distributing and routing chart. To do this, a map of the United States should be purchased or it may be drawn up by the traffic man himself. The inner portion of the map should be entirely blank except the state lines if they are desired. A star should be placed to indicate the city where the factory is located; if there are a number of factories located in different cities there should be a star for each.

The location of the distributing centers or warehouses where spot stocks are carried should be designated by large solid circles. The carload freight rate between the factory and each of the distributing centers should be designated above a line which extends from each of the

distributing centers to the factory. If there are a number of factories, they should be connected only to the distributing centers nearest.

Designate Rates to Various Points

A smaller circle than that designating the warehouses or distributing centers should indicate the cities where the major portion of the company's products are marketed. These cities may then be connected by a black line to the two nearest distributing centers, inserting the less carload rate between the two points directly above the line. For instance, the chart above shows that the factory is located at Duluth, a warehouse at San Francisco and St. Louis, with others in the central west, South and East, Denver and Salt Lake City being the two cities designated between the two distributing centers mentioned.

Such a method should be followed—that is, of giving the less carload rate between the factory and cities nearby, comparing also the freight rates between the cities and the nearest warehouses or distributing centers. This same system should be followed between the distributing centers and all principal cities where the company's products are marketed.

The chart can be put to other uses besides routing

(Continued on page 42)

Reduce Packing Material Waste

Household Goods Warehouses Should Keep Accurate Records of Material Removal from Plant—Used and Unused

New Yorker Evolves Three-Form System—Monthly Inventory Itemizes in Detail Costs, Expenses and Profits of Packing Department's Activities—Small Plant May Install System for \$28

HOUSEHOLD goods warehousemen can reduce their packing material waste by installing a simple system which will give an accurate record of packing material sent to customer's residence, used and later returned to the plant. Besides eliminating waste of material, the system will assist in reducing much of the packer's lost time in getting the desired material together. It is not an elaborate system but one which can be installed at a small warehouse for \$28. This amount includes the purchase of 1,000 set of forms and a stock book. In other words, this price includes the purchase of all necessary forms for the operation of the system.

The system which involves the use of three forms and a stock book was worked out by a New York warehouseman a number of years ago, after it was concluded that an enormous amount of money was lost yearly because of the poor method of checking and recording packing materials.

How to Use the Forms

As with other modern systems employed by the household goods warehouseman, the estimator makes a notation on his report of the packing material needed. After the work has been accepted by the company, a requisition for the withdrawal of material (Form No. 1) is made out in triplicate by the shipping department from the estimator's report. The original copy is sent to the office and later given to the driver. The second copy is turned over to the stockroom and the third is retained at the shipping clerk's office until the material and time slip used by the packer and the unused material slip are turned in, when the proper entries are made in the stock book.

After the requisition for the withdrawal of material is received by the stock clerk, he proceeds to put up the order, tying and tagging the smaller items together, so that when the driver receives five or six deliveries there will be no chance of his delivering the wrong material. The material is therefore ready for the driver when he presents the withdrawal order. All goods wherever possible are delivered at the customer's residence a day or two before the packer is to begin work.

When the packer is sent to a job he carries a material

and time slip (Form No. 2). A portion of this form is filled in at the office by the shipping clerk. It contains the customer's name and address, the amount of each particular class of material delivered, and also the time the packer left the warehouse for that job.

Customer Signs for Material Used

After a job is completed, the packer makes a report on this form, denoting the material used and the amount left at the residence to be picked up. All particulars in regard to his time and whether all goods are in perfect condition are also recorded on this form. Before leaving the job, the packer has the customer sign Form No. 2, to the effect that the material described thereon has been delivered and that the work has been done to his satisfaction.

Form No. 2 is returned to the shipping department, where it is filed with Form No. 1, the requisition blank. If any material has been left on the job, the entries are transferred to the left-hand column on the emptied or unused material slip, Form No. 3. A number of these orders are turned over to a driver, who proceeds to collect the unused material, the correct amount being recorded in the right-hand column. When the material is returned to the stockroom it is checked on this form.

Retain Monthly Inventory

All data being entered on the three forms, Nos. 1, 2 and 3, are checked up, and the entries made in the stock book. The stock book is ruled with columns for the date name and address of customer, name of packers, and a column for each particular class of material—a total of thirty-four columns, including three columns for prices—that is, the price paid for the material, that charged the customer and the profit. The stock book is gone over the 20th of each month, and an inventory is taken of the material used, the profits, the material on hand, etc.

The installation of this system involves such a small expense there is no reason why there should be any waste of packing material at the household goods plants. Besides, another good feature of the system is that it is simple and does not require any great amount of time to keep it up-to-date.

The three forms can be gotten up by practically any

printing establishment at the approximate price paid by the New York warehouseman. The size of the forms and the price paid by the New York warehouseman is as follows:

Forms—Size	Price per 1,000 sets
Requisition for Withdrawal of Material, 5¼x8¾ in..	\$8
Material and Time Slip, 8¼x10½ in.....	8
Emptied or Unused Material, 5¼x8 in.....	8
Stock book—300 pages.....	4

\$28

Where the warehouse does a large packing business, the forms should be purchased in larger quantities, such as 5,000 and 10,000 sets. By purchasing large quantities, the warehouse should get a reduction of between \$1 and \$2 per 1,000 sets.

The stock book is expensive if it is printed—that is, separate column for each class of material. Including the purchase price of a 300-page book and the printing would cost between \$20 and \$25. If the warehouse does only a small packing business, it is not necessary to

spend this amount, as a book with unruled pages, having a fairly good cover can be purchased for \$3 or \$4. The warehouseman can then rule the pages—allotting one column for the customer's name, address, date, packer's name and for each class of material used, and also for the cost, selling price, and profit. The warehouseman following this plan should keep a record of the material that is received at the plant. This same book will serve both purposes, the front for recording outgoing material and the rear for incoming.

THE MANHATTAN STORAGE & WAREHOUSE CO.									
MATERIAL & TIME SLIP									
WORK DONE FOR M					AT				
PACKER'S NAME		LEFT WAREHOUSE	COMMENCED WORK	STOPPED WORK	RETURNED TO WAREHOUSE	REMARKS			
						Where are the Mirror Pins			
						Screws, Castors			
						Cents			
						Pegs			
						Keys			
MATERIAL	UNUSED AT HOUSE	DEL'D TODAY	TOTAL AT HOUSE	USED	UNUSED	DAMAGED ARTICLES NOTED			
Bbls.									
Ornament Boxes									
Book									
"									
"									
"									
Excelsior Lbs.									
Tacks Pk'ges									
Lumber Ft.									
Nails Lbs.									
Heavy Paper									
Furn.									
Tissue " Qu.									
Moth " Yds.									
Burlap "									
Twine Balls									
J cord "									
H. "									
Screws Doz.									
Pads									

THE NUMBER OF HOURS AND AMOUNT OF MATERIAL FOR WHICH YOU SIGN WILL BE CHARGED IN YOUR BILL

I CERTIFY THAT ON 191 THE ABOVE WORK WAS DONE AND GOODS WERE IN CONDITION NOTED ABOVE.

PLEASE READ CAREFULLY BEFORE SIGNING.

YOU ARE REQUESTED NOT TO FEE OUR EMPLOYEES.

EMPTIED OR UNUSED MATERIAL?			
			191
Mr.			
Driver	Packer		
Bbls.		Heavy Ppr. Lbs.	
Orn't Boxes		Furn. " "	
Book "		Tissue Ppr. Qu.	
"		White Tissue, Qu.	
"		Moth " Yds.	
"		Burlap, "	
"		Twine Balls	
"		J. Cord "	
"		H. " "	
"		Pads	
"		Screws, Doz.	
"		W. P. Ppr. Yds.	
"		Rope, Lbs.	
Sisal, Lbs.		Strap Iron, Lbs.	
Tacks, Ppr.		Bbl. Heads	
Lumber, Ft.		" Hoops	
Nails, Lbs.		Moth Wax, Lbs.	
Remarks			
Entered by			
Charged by			

No. 2000 Requisition for Withdrawal of Material			
			191
Mr.			
Remarks			
Bbls.		Excelsior, Lbs.	
Orn't Boxes		Tacks, Ppr.	
Book "		Lumber, Ft.	
"		Nails, Lbs.	
"		Heavy Ppr. Lbs.	
"		Furn. " "	
"		Tissue Ppr. Qu.	
"		Moth " Yds.	
"		Burlap, "	
"		Twine Balls	
"		J. Cord "	
"		H. " "	
Paper "			
Entered by		Charged by	

FORM No. 1, the requisition for the withdrawal of material, is made up in triplicate from the estimator's report. It is necessary to present a requisition at the stock room before any material can be removed. **Form No. 2** is the material and time slip used by the packer. It gives all data pertaining to material delivered, used and unused. The customer signs this slip that the material described thereon has been used and that the work has been done to his satisfaction. **Form No. 3**, the unused material slip, is the driver's order to collect certain material that has been left at the customer's residence

FROM THE LEGAL VIEWPOINT

Our Own New Legal Service Bureau

By George F. Kaiser

Terms of Contract Should Be Lived Up To

Editor, TRANSFER & STORAGE:—We notice in the August issue of TRANSFER & STORAGE magazine the announcement of your legal services. We will greatly appreciate your opinion on the following case:

The U. S. Government has stored with us several carloads of dental supply chests, on which we have issued a non-negotiable receipt, like the one we are enclosing.

Our agreement with the Government is that they shall pay us \$100 per month on the first of each month in advance. They now owe us for two months' storage, and we have received a letter from them directing us to ship these goods, and upon receipt of B/L they will forward their check for all storage.

Our negotiable receipt calls for payment of charges and surrender of receipt. The non-negotiable receipt does not. Can we refuse to make shipment and hold goods until storage has been paid?

We will greatly appreciate your advice on this.—S. B. W. CORP.

Reply:—Your agreement is that you are to be paid in advance for your charges. Your receipt contains a statement of items for which a lien is claimed. In view of these facts you would seem to have a right to hold the goods under your claim of lien until your charges are paid.

Railroad Has No Right to Exact Payment Twice

Editor, TRANSFER & STORAGE:—We are asked by the New York, New Haven & Hartford Railroad Co. every week to collect corrected bills for storage and freight charges; sometimes these bills are corrections one year back. In many cases our customers refuse to pay, saying that bill

Legal Service

BECAUSE of the numerous legal questions brought to the attention of the editors during the past few months, TRANSFER & STORAGE in the future will carry a department entitled "From the Legal Viewpoint."

There may be many legal matters in the operating of your business which you desire to be enlightened upon. If so why not ask the legal editor of TRANSFER & STORAGE for a ruling?

George F. Kaiser is a practicing lawyer who makes a special study of warehousing and transfer affairs. Service given in these pages is free. TRANSFER & STORAGE cannot agree to answer all questions, but will do so as far as is possible.

had been paid once and that was enough.

We had rendered to us this week six corrected bills for storage amounting to \$4.50. The first bills rendered for storage were figured by a different tariff than the last.

The New York, New Haven & Hartford Railroad Co. claim that storage must be paid for both Sundays and holidays regardless of the fact that their depots are closed and they are not willing to deliver goods if called for.

What we want to know is: Can the railroad company hold us for these corrections and has it the right to

charge storage for Sundays and holidays?

We are of the opinion that you had an article in one of your issues in reference to above.—THE E. J. K. CO.

Reply:—I do not blame your customers one bit for refusing to pay the additional charge on a bill which has already been paid and in a matter which has already been settled. I do not believe the company has a right to exact payment in such a case.

As to the company's charge for storage, however, I think they are in the right, as if a person doesn't want to pay storage for a Sunday or holiday such a person has the privilege of removing the goods the day before. Sundays and holidays are recognized by the courts.

The Licensing of Passenger Vehicles for Hire

Editor, TRANSFER & STORAGE:—Not being in the business of transferring passengers, but having hired a truck once or twice to an individual for the purpose of hauling a number of people out to the country for a day's outing, are we justified in paying a license of \$25 recently assessed us by a revenue collector?

Thanking you for the advice, we beg to remain.—S. L. TRAVIS.

Reply:—Title X, Section 1001, sub. 11, of the War Revenue Act of 1918 provides:—"Persons carrying on the business of operating or renting passenger automobiles for hire shall pay \$10 for each such automobile having a seating capacity of more than two and not more than seven and \$20 for each such automobile having a seating capacity of more than seven."

Personally I do not think that you should be held to be "carrying on the business of operating or renting passenger automobiles for hire."

The collector of Internal Revenue of the district where you are located apparently has decided differently,

however, and undoubtedly can refer you to some ruling on the matter.

Responsible for Deliveries to Persons Not Authorized

IN the Massachusetts case of Blaisdell against Hersum & Co., 123 N. E. 386, it was recently decided that when a warehouseman delivers property to a person not authorized to receive it he is liable for conversion without regard to whether or not he was negligent or used due care.

In this case the warehouseman had

contracted to return the goods to the owner or to someone authorized to receive them for her.

The owner employed a second-hand dealer to sell some of the goods. She directed him to obtain them from the warehouseman. The latter, upon the second-hand dealer's statement that he was employed by the customer to sell all the goods stored, delivered them to the dealer.

The Court held that even though the warehouseman had relied on the dealer's statement he was responsible, even if the statement had been made through negligence or mistake.

ment of the draft the bank would turn over to him the original invoice. Title was reserved in the seller until payment should be made.

It was admitted that the goods remained in the warehouse for 7 months and until destroyed June 28, 1915. It also appeared that the bank soon after it received the draft and bill of lading notified the buyer that they were in its possession.

When on the witness stand, Mr. Lauer, president of the Buying Corporation, was asked the question:

"You understood all the time that these goods were being held for you and all you had to do was to go to the First National Bank and give your check and take the goods; isn't that the fact? A. Sure. Q. That was the way these goods were ordered C. O. D., were they not? A. Yes, sir. Q. Did you tell them (Smith & Sons Co.) that you would not receive the goods for any cause from the time they were shipped to you, and ordered here in Alturas, until after the fire? A. I do not think we had any correspondence over them at all."

The Court said in holding the seller responsible: "We understand that the rule at Common Law is the rule in this State, viz., that the risk is placed where the title resides. We think it is quite clear that the vendor did not intend that the ownership and right to the possession of the goods should pass to the buyer until its draft was paid. We think that the loss of the goods should fall upon the seller." Henderson against E. Lauer & Sons, 181 Pacific 811.

In another California case it was decided that a warehouseman cannot relieve himself from liability for loss of goods resulting from want of ordinary care and diligence by inserting a clause in a receipt that the goods are deposited at the risk of the owner.

Suit was started against a warehouseman to recover for twelve sacks of wool which had been stored and which the warehouseman failed to deliver on demand.

The warehouse receipt recited that the property was received "for account and at the risk of the depositor." It further provided that the warehouseman "is not responsible for loss occasioned to the merchandise store by fire or elements."

The Court decided the warehouseman was not liable when it appears that the goods had been stolen from the warehouse through no lack of ordinary care or diligence on the part of the warehouse or its employees. Morse against Warehouse Co., 181 Pacific 815.

The Business of Being a Warehouseman

THE relationship of a warehouseman and his customers is of course a contractual relationship. A little knowledge of the law of contract on the warehouseman's part is therefore a useful thing.

In construing a contract to find out what it actually means, the intention of the parties, if it cannot be found from the terms of the contract, can be ascertained by considering the circumstances surrounding the transaction.

A warehouseman, when he has not bound himself to do more, must store and receive goods, use ordinary care to keep them safely, allow the owner to have access to them at all reasonable times and redeliver them back to the owner upon his demand.

Bonded warehouses, of course, must give the bond required by the State where they are located, and must comply with all statutory regulations of that State. The most important document the warehouseman has to deal with is the warehouse receipt, so called, which is merely an acknowledgment by him that he has the custody of the goods or property of the person to whom he issues the receipt.

This paper is governed by the law of the State where it is issued. The form of it is immaterial, but it must contain a description of the goods and show that they are held in storage. A description which is sufficient to identify the property is all that is required.

This receipt naturally does not bind the warehouseman when issued by someone such as an agent or employee without authority.

Where persons who apparently have authority to issue such receipts, such as offices or agents, issue them without authority, the receipts are binding on the warehouseman if they are accepted in good faith and for value by an innocent party relying on the apparent authority.

Renewal and duplicate receipts also merit a word of explanation. The former take effect from the time they are issued and their date is immaterial. Where two receipts are issued for the same property the prior receipt is the prevailing one and the holder of the subsequent one only becomes entitled to the property when the holder of the prior receipt consents to his taking it.

A warehouse receipt is, of course, nothing more or less than a written contract, and therefore is construed in accordance with general contract laws.

"THE UNIFORM WAREHOUSE RECEIPT ACT provides: IF A NEGOTIABLE receipt is issued for goods, the warehouseman shall have no lien thereon, except for charges for storage and preservation of those goods, subsequent to the date of the receipt, unless the receipt expressly enumerates other charges for which a lien is claimed."

Warehouse receipts are oftentimes said to be quasi negotiable because they are intended to pass from hand to hand and carry the title to the goods with them.

In determining whether or not warehouse receipts are valid and in endeavoring to find out their effect the law of the State where the goods are stored or in which the receipt is issued is controlling.

(To be continued)

Seller Responsible for Goods Destroyed at R.R. Warehouse

THAT where goods ordered were shipped "C. O. D. with Bill of Lading and draft attached" the loss of the goods by fire while in a railroad warehouse fell on the seller was the decision in a recent California case.

The goods had been sent to a bank with notice to the buyer that on pay-

Road Commissioner Urges Uniform Laws

New York Official Suggests a Program for Development of Motor Trucks

ALBANY, N. Y., Sept. 22—Apprehension that ill-considered motor truck legislation by the several states may interfere with the development of economical highway transportation and of motor truck express service in interstate commerce has led the New York State Commissioner of Highways, Frederick S. Greene, to write to Colonel Sherrill, of the U. S. War Department, calling attention to "the necessity of having the States enact uniform traffic legislation."

Commissioner Greene points out that New York State is preparing for the motor express era and is building concrete roads as part of its program in promoting motor truck lines. The State Division of Foods and Markets is much interested in the development of such truck operation as an important factor in promoting agricultural production and reducing prices of farm products in the cities. "It will be the duty of the next legislature," says Mr. Greene, "to enact laws that will promote transportation development." In his letter to the War Department, the Commissioner says:

"I have noticed that a great many States are now beginning to enact motor truck legislation, and, as usual, the laws are not uniform. This, of course, is going to hamper not only the manufacture of motor trucks, but will tend toward confusion generally in motor truck traffic. I believe the law should limit motor trucks in three directions—width, height and maximum load per inch of bearing surface of tire. In my opinion, no truck should be allowed on our highways which is more than 8 feet in width and 13 feet in height."

He also advocates a maximum gross weight of vehicle and load not exceeding 800 pounds per inch of tire.

DRAYMEN OPPOSE ORIENTALS

SACRAMENTO, CAL., Sept. 6—A resolution asking Congress to bar Oriental labor from the United States was adopted to-day by the California State Draymen's Association, in convention here.

One hundred delegates from all sections of the State attended the convention. W. P. Scott of Oakland was elected president, and Fresno was selected as the city for the 1920 gathering.

COLD STORAGE INFORMATION

NEW YORK, Sept. 20—The Port of New York Warehousemen's Bureau of Information, Inc., has organized a Cold Storage Section with Mr. R. A. Adams, of the Manhattan Refrigerating Co. as chairman.

This section will begin the study of Cold Storage costs, etc., and will co-operate with the Cold Storage Sub-division of this association and with others in

the securing of information and data in connection with all matters relating to space, handling and operating costs.

The following firms have recently been admitted to membership in the cold storage section: Anheuser-Busch Agency, Bronx Refrigerating Co., Heermance Storage & Refrigerating Co., Independent Warehouses and National Cold Storage Co., all of New York, and India Wharf Brewing Co., Brooklyn.

High Costs of Labor Justify Better Rates

OAKLAND, CAL., Sept. 13—The California State Railroad Commission has authorized eight warehouse companies operating in the San Joaquin Valley to charge increased rates.

Evidence taken at the public hearing held on the petitions for an increase showed that the rates now being charged were non-compensatory because of the high cost of labor and material entering into the operation of the warehouses. The new rates are based on a graduated time schedule with special charges for special service. A minimum storage charge of \$1 is provided. Eighty per cent of the tonnage passing through the warehouses consists of grain, 13 per cent beans and 5 per cent hay. Rice and various other commodities are also being handled in fairly large quantities.

The eight beneficiaries of the commission's action are Simon Newman Company, Crows Landing Warehouse, Grange Company, Oakdale Milling Company, Baker & Co., A. B. Shoemaker Co., L. H. Meyer and A. L. Gilbert.

TRANSFER MEN TEST LAW

SAN FRANCISCO, Sept. 10—The California Transfer and Storage Association, with a membership of more than seventy express and storage firms in San Francisco, has begun legal action to test the right of California cities of the sixth class to levy a license tax on companies engaged in the moving and transfer business. Papers in a suit have been filed seeking an injunction to restrain the city of Sausalito, its marshals and clerks, from demanding and collecting a license tax of \$12 a year from companies operating within its boundaries. The progress of this litigation is being watched by transfermen in scores of California communities.

TO RAISE WAREHOUSE FUND

GREENSBORO, N. C., Sept. 19—A committee appointed on behalf of the Chamber of Commerce has undertaken to raise \$40,000 among local business interests to finance in part the \$200,000 warehouse which it is purposed to have established at Greensboro as one of the Union Warehouse Corporation's chain of standardized cotton storage buildings throughout the South. It has not been decided whether warehouses already built will be used or a new fireproof, concrete structure erected.

Warehouse Amendment Aids Cotton Industry

Receipts Negotiable at Banks Are Provided for Growers—How Storage Men May Qualify

WASHINGTON, Sept. 10—To place the business of cotton warehousing on a stable basis and provide receipts for cotton that are negotiable at any bank has long been an aim of persons interested in cotton, and under the amended United States cotton warehouse act this is likely to be realized. That is the opinion of men in the Bureau of Markets, United States Department of Agriculture, who are charged with issuing Federal warehouse licenses.

The warehouse act has just been amended so as to permit the acceptance of personal bonds from warehousemen and to permit the issuance of negotiable receipts, when requested by the depositors of cotton in the warehouse, without stating the grade of the cotton. The grade must be stated, however, unless the request to omit it is made.

The purpose of the warehouse act is to create a warehouse receipt of unquestioned value and one which will be acceptable to all bankers as security for obtaining loans, regardless of the location of the warehouse. In this way warehousemen will furnish a receipt to their customers which will be of the utmost value to them as negotiable paper, and enable them to borrow close to the actual value of their stored goods at cheaper interest rates. Thus they may market their cotton slowly and in conformity with the needs of the manufacturers. The full description of the cotton stored requested to be stated on the face of the receipt will enable the owner to know the value of his cotton and enable him to market it intelligently. The proper development of the warehouse will make possible the practice of marketing the cotton crop through the warehouse, and thus avoid the enormous losses which have heretofore resulted from weather damage.

Warehousemen desiring to take advantage of the opportunity extended should apply to the Bureau of Markets, at Washington, D. C., for the application forms. Upon receipt of the blanks they should be filled out and sent to the Bureau of Markets at Washington, along with the nominal inspection fee required. This fee is based on the capacity of the warehouse at the rate of \$1 for each 1,000 bales of its capacity; thus, a 5,000-bale warehouse will pay an inspection fee of \$5; a 6,000-bale warehouse, \$6, etc. If the warehouse has a capacity of less than 5,000 bales, the fee will be \$5. The maximum inspection fee is \$50. Thus, a warehouse having a capacity of more than 50,000 bales will be required to remit a fee of only \$50. This inspection fee, a license fee of \$2 and the cost of his bond is the total expense of the warehouseman. If for any reason the license is not issued or the inspection is not made, any unassessed fees will be returned to the applicant.

Hines Appeals for Shippers' Efficiency

Forecasts Serious Transportation Situation Unless There Is Co-operation

WASHINGTON, Sept. 22—Manufacturers, traffic executives and warehousemen throughout the country are appealed to in the following statement made public to-day by Walker D. Hines, Director General of Railroads:

"The time has now come for renewed efforts by both the Railroad Administration and the shippers and receivers of freight so that the nation's transportation service may be rendered with the greatest satisfaction possible under the circumstances.

"An unusually heavy grain and coal movement deferred repair and the construction of public highways in all sections of the country and the concentrated requirements of suddenly reviving business, combined with the usual transportation requirements at this time of the year, threaten a serious lack of transportation facilities unless all parties interested co-operate in securing the greatest possible utility from the existing limited transportation facilities.

"In this connection attention is invited to the following extract from a recent public statement of the President:

"We have now got to do nothing less than bring our industries and our labor of every kind back to a normal basis after the greatest upheaval known to history, and the winter just ahead of us may bring suffering infinitely greater than the war brought upon us if we blunder or fail in the process. An admirable spirit of self-sacrifice, of patriotic devotion and of community action guided and inspired us while the fighting was on. We shall need all these now, and need them in a heightened degree, if we are to accomplish the first tasks of peace."

"The Railroad Administration will do its full part. The Car Service Section in Washington and the various regional organizations are striving earnestly to secure a fair and just distribution of the existing equipment as well as to meet the requirements of individual shippers. Of the 100,000 new freight cars which the Railroad Administration ordered constructed, 59,409 had been completed on September 13, and are now in service, and this number is being increased at the rate of over 900 each working day. Instructions have been issued to all Regional Directors to bend every effort to speed up road and yard movements, to secure heavier loading of equipment, to establish and maintain complete and accurate yard checks, to reduce the number of bad order cars, to make prompt delivery to connections, to effect early deliveries at freight houses and team tracks, to reduce the number of freight cars used in the transportation of company material and to expedite the movement of grain cars in terminals. The hours of labor of car shop employees have been increased and every effort is being made, both in railroad shops and in

the shops of private concerns to whom the work is being let out, to reduce the number of bad order cars.

"I earnestly urge all shippers and receivers of freight to redouble their efforts to promote freight car efficiency.

"Shippers of freight can assist—

"1. By loading all cars to full visible or carrying capacity.

"2. By prompt loading and release to the carrier.

"3. By ordering cars only when actually required.

"4. By eliminating the use of railway equipment in trap or transfer service when tonnage can be handled by motor truck or wagon.

"5. By reducing the diversion and re-consignment of cars to a minimum.

"Receivers of freight can assist—

"1. By prompt unloading of cars and notice thereof to the carrier.

"2. By ordering goods in quantities representing the full safe carrying capacity of cars and disregarding trade units.

"3. By ordering from the nearest available source.

"4. By pooling orders so as to secure full car load.

"A resumption of intensive loading will not merely reduce the number of cars under load but will also relieve congested terminals where it is a question of track room rather than of equipment.

"With a strong concerted effort on the part of the Railroad Administration and the shippers and receivers of freight, it is hoped that during the period of abnormally heavy traffic with which we are now confronted the nation's transportation needs may be met with reasonable satisfaction to all parties."

Texas Warehousemen Hold 2-Day Convention

SAN ANTONIO, TEX., Sept. 18—The semi-annual convention of the Texas Warehouse and Transfer Men's Association, held in San Antonio in August, had the effect of attracting the interest of many Texas warehousemen who were not identified with the organization. Since the day the delegates assembled, nine new members have been accepted, and Waco and Austin each has formed a local body of its own.

The two-day gathering at San Antonio was considered the most successful convention in the State association's history. Acting Mayor Ray Lambert and F. E. Scobey delivered addresses of welcome, and talks were made by S. J. Westheimer, president; Temple Harris, secretary, and Heber Page, L. A. Robertson, H. E. Hildebrand, N. H. King, Roy Binyon and B. S. Hurwitz. Subjects discussed included labor charges on carload distribution, attracting competitors' confidence, co-operation by warehousemen toward installment furniture men, tail-board delivery, cost of operating teams and trucks, and the duties of receiving warehousemen in handling goods shipped through the courtesy of other warehousemen.

New York-Baltimore Shipments by Water

Distribution Route Connects Louisiana and Texas with New England States

NEW YORK, Sept. 24—The traffic bureau of the Merchants' Association is advised that the New York and Baltimore Inland Transportation Company, on Tuesday, August 26, began to operate a fast freight line between Baltimore and New York, for both carload and less than carload shipments for north and southbound movement.

The rates published by the carriers, at which this service will be rendered, are as follows:

CLASS RATES

1	2	3	4	5	6	R25	R26	R28	classes
51.5	44	35	27	22.5	18	37	28	29.8	cts. per 100 lb.

Shipments will be received daily at Pier 52½ N. R., foot of West Twelfth Street (Patten Line Pier) for southbound movement to Baltimore, and will be delivered in that city at Pier 2, Pratt Street.

The carrier also announces shipments for points reached by the Southern Pacific Steamship Company, such as New Orleans, Galveston and interior Louisiana and Texas points.

WAREHOUSE FIRE LOSSES

NEW YORK, Sept. 11—Storage warehouses, including grain elevators, suffered approximately \$2,800,000 in fire losses in the United States and Canada during August, according to statistics compiled by the New York Journal of Commerce. These included the following:

Swanton, Vt., grain elevator, \$100,000; Henderson, N. C., cotton warehouse, \$50,000; Halifax N. S., fish warehouse, \$15,000; Port Colborne, Ont., Government grain elevator, \$1,800,000; Philadelphia, elevator and warehouse, \$170,000; Albany, N. Y., storage house, \$50,000; White Bear, Mont., grain warehouse, \$43,000; Heyworth Ill., grain elevator, \$30,000; Rochester, N. Y., warehouses, \$200,000; Kirkpatrick, Ind., two grain elevators, \$30,000; Eminence, Ky., tobacco warehouse, \$15,000; Chicago, grain elevator, \$11,000; Butte, Mont. fruit warehouse, \$100,000; Billings, Mont., elevator \$25,000; Dallas, cotton warehouse, \$50,000; St. Bernard, O., chemical warehouse, \$100,000; Zineville, Okla., warehouse \$12,000.

BARLEY CROP WAREHOUSED

NEWMAN, CAL., Sept. 20—The warehouses in this territory have again successfully handled a season's barley crop. With the exception of stocks still held for seed and for late sale the 1919 grain has been shipped and most of the warehouses used in this industry have closed after two busy months. While the crop was by no means a bumper one and although the quality fell below that of last year, the financial return probably was larger than in any previous year.

Favors Publicity in Cold Storage Inquiry

Horne Suggests Also Interstate Powers as Basis for Federal Legislation

NEW YORK, Sept. 22—The attention of the nation's cold storage interests is centered at this time on the work of the sub-committee of the House Committee of Agriculture in preparing legislation intended to regulate this industry. Frank A. Horne, president of the Merchants' Refrigerator Company, who was a witness recently before the committee, to-day made public here the following statement outlining his view of the situation:

"I would like to discuss to some extent what I have in mind with respect to a proposed Federal law having as a background the discussion already had concerning the United States food control activities and the various State laws. It is my judgment that the interstate powers should be invoked as the basis; that there should be the usual definitions of cold storage and cold storage warehousemen, similar to the definitions in the uniform law, and in the food control regulations; that there should be prohibition of the shipment of cold storage products in interstate commerce, provided they have been in cold storage twelve months, but with the privilege of extension of time upon examination by the Department of Agriculture, with the necessity of a certificate specifying the length of the extended time and the particular lot or parcel of goods affected; furthermore, to prohibit the movement in interstate commerce of cold storage products unless they are marked with the date of receipt and other dates prescribed by the regulations, and then to have a provision making mandatory reports as to the quantities of goods on hand, perhaps at that point enlarging the least of commodities beyond those mentioned in my testimony.

"At that point it is desirable that the Department of Agriculture should gather statistics on a larger range of food products, but it is not my judgment that this larger list should be limited by the twelve months' period or the marking provision.

"I think that authority should be given to the Department to secure and publish information concerning the cold storage warehousemen; it should be given power to classify them on a proper basis, for example, as classified by the Food Administration. They can secure other information from the warehousemen relative to the matter of cold storage operations, such as the question of rates charged and other conditions and operations of the business, as a matter of information.

"I do not believe that you could control as closely under the commerce clause the operations of the warehouseman as was done under the war power in the food control act with regard to certain matters, but I am a great be-

liever in publicity and I think it highly desirable that the facts should be known and that they should be open to all. I think that in that way there would be a correction of any discriminatory practices, and it would be of value to the public as well as to the warehousemen and correct some of the evils that were more definitely dealt with during the food control regulation. I think, of course, that power should be given to the Department to make investigation concerning the operations and methods of cold storage warehouses."

California Storage Law Now Operative

SACRAMENTO, Cal., Sept. 19—As the result of an order from the railroad commission, all cold storage food warehouses in California will be required to file with the commission schedules showing all the rates and charges at present in force for warehousing and storing service of every description. Their rules and regulations which in any manner affect or relate to rates or charges must also be filed. The "food warehouseman act" passed by the last legislature became effective July 22, and the order of the commission was the first step toward putting this in action.

Under the terms of the act all food warehousing concerns in California, of which there are about sixty, are required to subject themselves to the jurisdiction, control and regulation of the railroad commission. Schedules must also be kept on file showing all rates and charges, and these files must be open to the public at all times. These rates are to be uniform in their operation and are to apply with equal force and effect to all persons, firms and corporations, and the act also provides that no warehouseman may engage in business of storage of food unless his rates and charges meet with the approval of the railroad commission.

HIGHER WAREHOUSE RATES

SAN FRANCISCO, Sept. 12—The Warehouse Owners' Association has applied to the California State Railroad Commission for permission to increase its rates for handling and storage. The purpose of this appeal is to enable the members to grant wage increases to employees. The industrial relations committee of the Chamber of Commerce has pledged its support to the warehousemen's movement.

NEW WATER CARRIERS

SAN FRANCISCO, Sept. 23—New facilities for distribution of commodities from the Pacific coast to the Atlantic seaboard will be available when the Pacific Mail Steamship Co. inaugurates freight service by water between San Francisco and Baltimore this month. The company selected Baltimore as the Atlantic terminal partly because the rates were considered more advantageous and also owing to shipping congestion at New York.

Motor Transportation Radiates 200 Miles

New York Company Serves Wide Territory, Operating 40-Truck Fleet

NEW YORK, Sept. 19—An idea of the extent of this form of transportation which is calling for better roads and the best motor trucks is given by the example of Callan Brothers, of New York, who operate a motor truck transportation system within a radius of 200 miles of New York City. They have a fleet of more than forty 7½-ton trucks. They have closely connected their service with the Erie Barge Canal, which runs from Buffalo on Lake Erie across the State of New York, joining the Hudson River at Troy.

Callan Brothers have linked their eight large warehouses, with a storage capacity of 900,000 square feet, and their motor truck service with the terminals of the canal in New York City and important upstate trans-shipment points along the canal. The Harlem River ship canal is eight miles long. Callan Brothers unload freight direct from the canal barges at their warehouses alongside their yard for shipment by their large fleet of motor trucks and delivery direct to consignees or to Callan Brothers' warehouses to be held for future delivery in New England, New Jersey, Delaware, Pennsylvania, or other seaboard States or to trans-Atlantic piers in New York City.

These motor truck transport systems are the outcome of the inability of the railroads to handle the great quantities of freight which have congested railway traffic in all parts of the country. This condition is responsible for the discovery of the real value of the motor truck as a transportation medium. Motor trucks were used in connecting the broken lines of railroad shipping and are replacing the use of local freight trains on "short hauls" to a considerable extent, thereby releasing freight cars for the more essential shipments on longer hauls.

The following is a schedule of the distances and time made by Callan Brothers' 7½-ton Mack trucks:

	Per trip,	
	Miles	Hours
N. Y. to Philadelphia.....	100	12
N. Y. to Baltimore.....	188	22
N. Y. to Dover, Del.....	172	21
N. Y. to Waterbury, Ct.....	95	11
N. Y. to New Haven, Ct.....	77	9
N. Y. to Bridgeport, Ct.....	58	8
N. Y. to Hartford, Ct.....	113	16
N. Y. to Springfield, Mass.....	139	18
N. Y. to Worcester, Mass.....	199	23

American Warehousemen's Association Bulletin.

OPPOSES TRAFFIC CLAUSE

MINNEAPOLIS, Sept. 15—The Minneapolis Traffic Association has announced that through the city's Congressional representatives at Washington it will oppose the "long and short haul" clause contained in the railroad control bill introduced by United States Senator Cummins.

Warehousemen Discuss the Labor Situation

Detroit and Cleveland Owners Confer on Open and Closed Shop Situations

CLEVELAND, Sept. 11—Detroit and Cleveland representatives of the warehouse industry met here to-day to discuss the labor situation. Household goods warehouse employees in Cleveland are unionized. In Detroit the open shop prevails. There was no indication at the meeting here that the warehouse executives of either city were dissatisfied with the employees' labor stand in their particular cities, but the conclusion was reached that the laborers should be taken into closer co-operation with employers regardless of whether the men were unionized or worked under the open shop system. The profit-sharing idea came in for considerable discussion.

The Detroit warehousemen present were T. Y. Leonard, Arthur Leonard, J. W. Miller, Lewis H. Tanner and Marvin Sprague. Cleveland's representatives included George A. Rutherford, C. J. Neal, A. W. Neal, J. J. Gund, Mead Redhead, O. L. Scott, A. P. Peek and William Turner.

GEORGIA SEEKS WAREHOUSE

ATLANTA, GA., Sept. 22—A resolution designed to give Georgia farmers warehousing privileges on the coast, placing their cotton on direct steamship lanes from New York to South American ports, has been introduced and strongly pressed in the Senate by Senator Vickery. The request is that Congress should concede 720 acres of land held at Point Peters to the state for warehouse purposes. If the move is successful, it is intended that only the actual cost of operation shall be charged growers housing their products here.

Warehouse Distribution

(Continued from page 25)

shortage is being keenly felt, particularly along the seaboard.

SOUTH—There has been little change in this section during the past month. The warehousemen are still confronted with the problems of labor unrest, lack of business and inefficient railroad service. At Atlanta, Ga., the merchandise plant is still carrying on a big business.

CANADA—Approximately 75 per cent of the merchandise warehouse space is occupied, although in some sections only 25 per cent of the facilities are being utilized. The warehousemen in many sections of Canada are confronted with a lack of business. Labor, a subject which has heretofore been given considerable attention, is now giving a more satisfactory service than it has for some time past. At Calgary, Alberta, the disposition of pool cars has increased about 10 per cent during the past month. This increase refers principally to groceries.

The following are the percentages of the merchandise warehouse space occu-

pied at various sections: West, 79.7 per cent; Central West, 79; Southwest, 80; East, 81, and the South, 85 per cent. The household goods warehouse space, taking the country as a whole, is approximately 81 per cent occupied.

The table following gives the approximate percentage of merchandise and household goods warehouse—occupied at various cities, according to reports received from thirty cities in twenty-one States:

Cities	Mdse. Space Occupied. Per Cent.	H H G Space Occupied. Per Cent.
WEST		
Butte, Mont.	90	90
Denver, Col.	75	95
Oakland, Cal.	80	..
Salt Lake City, Ut. ..	70	..
Tulsa, Okla.	100	..
Portland, Ore.	100	..
CENTRAL WEST		
Davenport, Iowa....	100	100
Des Moines, Iowa..	80	75
Kansas City, Mo....	67.5	100
Kokomo, Ind.	30	..
Mansfield, Ohio....	100	100
Sandusky, Ohio ...	70	..
St. Louis, Mo....	100	..
St. Paul, Minn....	90	..
Superior, Wis.	98
Little Rock, Ark....	95	..
SOUTHWEST		
El Paso, Texas....	85	..
Ft. Worth, Texas..	90	90
New Orleans, La..	62.5	..
Phoenix, Ariz.	85	85
San Antonio, Tex..	95	90
SOUTH		
Atlanta, Ga.	85	..
EAST		
Baltimore, Md. ...	80.6	..
Boston, Mass.	90	95
Elmira, N. Y.	100	..
Fall River, Mass..	80	85
New Bedford, Mass.	50	..
New York	81	100
Philadelphia, Pa....	70	..
Pittsburgh	95	95
CANADA		
Calgary, Alberta...	75	..
Toronto	70	..

OHIO STORAGE INCREASES

COLUMBUS, OHIO, Sept. 24—The transfer and storage business in Columbus and throughout central Ohio has during the past month comprised one of the best business seasons in years. The customary mid-summer dullness was lacking. Movement of foodstuffs has been particularly good, as well as machinery. Stoves have been stored in large numbers and are being sent to retailers and jobbers, and a good canned goods transfer business has been noticeable. A large territory in the Central States is covered from Columbus, which is the headquarters of branches of many implement concerns, and this situation has provided further activity.

Storage houses devoted to household goods are generally filled and space is at a premium. The house construction industry is in full swing and further excellent household goods business is anticipated. Rates at the various storage houses generally are well maintained at the levels prevailing in recent months and there has been no reduction in the charges for transferring.

100-Mile Truck Line Aids Kentucky Farmers

Louisville Business Interests to Use Motor Vehicles for Freight Delivery

LOUISVILLE, Ky., Sept. 24—The Union Transportation Line, with a capital stock of \$100,000, has been organized by several Louisville business men interested in providing reliable and convenient means of freight transportation from Louisville to Kentucky and Indiana points within a radius of 100 miles. H. A. Kampfmüller, general manager of the new concern, states that the company plans to erect a modern two-story truck line depot, and several downtown sites are now under consideration.

The Union Transportation Line has made an exhaustive study of the roadway conditions within a hundred miles of Louisville, taking in Lexington, Elizabethtown, Hodgenville, Lebanon, Harrodsburg, Lancaster, Nicholasville, Georgetown, Shelbyville, New Castle, and all intermediate points in Kentucky; and Corydon, Paoli, Bedford, Seymour, Madison, in Indiana. It plans at this time the establishment of motor truck lines to cover this territory as soon as they can be put into operation.

The company's freight depot will be used as a centralizing focus for the company's business and operation and will contain many features of interest to the farmer and shipper which have been worked out and are now in practice by a number of successful motor truck lines. The depot will contain a rest room for women, and lockers will be furnished them upon application, in which will be placed all packages and bundles from their city shopping.

There will be a business room for men at which daily market reports will be on file, with telephone and other facilities. Garage space will be provided in the building for the out-of-town customer and every assistance given him in the sale of his products and the purchase of his supplies. The plans of the depot provide for sufficient wareroom spaces for the sixty-one independent truck operators now running in and out of Louisville; and Louisville shippers may deliver their merchandise at the station, where it will be allotted its proper space to catch the first truck to its destination. No charge will be made the farmer for the business room and rest room privileges, and it is the intention to make the Union Line depot a meeting place for the men and women of the country to transact their business in Louisville.

The line will afford the farmer a prompt and efficient means for the transportation of farm products to Louisville and the immediate delivery of merchandise from the city. Many important objects are to be accomplished by the operation of a successful truck line out of Louisville, including advantages considered from the standpoint of increased food production in this territory. Business interests are optimistic regarding the value to Louisville of the project.

Traffic Executive's Duty Is to Study Warehouse Cost System

(Continued from page 6)

goods when delivery is made. This is such a radical change that it is not deemed advisable to make such recommendation at this time.

"It is very essential that much data be secured in all parts of the country as to the productive labor cost of handling all kinds of merchandise. Productive labor as used in this report is understood to mean the wage cost of the laborers and checkers while actually employed on an operation for which the warehouse is making a charge.

"In order to make these records valuable in all sections of the country they should be computed on a man hour basis, counting a checker as one and one quarter times the cost of a laborer. By the use of man hours real comparison may be made and results may be easily translated into dollars and cents by applying the wage per hour prevailing in any particular locality.

"Information bureaus in connection with local associations of warehousemen with paid actuaries are necessary to get the full value of the work. Exchange of information in regard to man hour costs between different parts of the country can then be readily accomplished and all sections can quote reasonable rates even on commodities which they seldom handle."

Similarly the standardization committee's report outlines in detail a basis for classification of goods for storage. In this connection the committee says:

"It is all important that the factors used in any classification shall rest on a defensible foundation, and serious consideration has been given to the work along this line, particularly to the questions of height of

pile and floor load, and laws relative to use and occupancy when once these two points are fixed. Certainly no classification could be of value that did not comply with the law and the insurance regulations.

"The basis of this classification is the floor space utilized, whether occupied by the goods in bulk pile, or with the addition of aisles made necessary for delivery in assortment or by individual package. The floor load table herewith is arranged to produce gross earnings of $6\frac{1}{4}$ cents per month per square foot of floor space utilized (assumed to meet average conditions in normal times) but it can easily be rearranged to produce earnings varying by 10 per cent steps to cover any desired earning per square foot as shown hereafter."

Engineers, expert accountants, business economists and other specialists co-operated in preparing the system of cost account which the national association is undertaking to have adopted universally among warehousemen. No effort is being made to produce uniformity of prices between any two warehouses or to create any situation which might be construed as a combination in restraint of trade; the sole idea is the preparing of a standardized basis of rates from which the individual warehouseman may compute rates that would be equitable as between different commodities—rates that would produce the same net revenue from each and every class of goods whether stored in bulk or in assortment, in quantity or in small lots. The Cincinnati convention will be the twenty-ninth annual one of the national association. Opening Dec. 10, it will be held at the Hotel Gibson.

How to Work Out a Distribution Chart

(Continued from page 33)

according to the rate. For instance, above each line connecting the factory, the distributing centers and the various cities may be inserted the abbreviations for the railroads operating between the two points, and also the approximate time it takes to make such a shipment.

The chart may be made up of any size that is desired, although one that is $8\frac{3}{4} \times 13$ in. is of a sufficient size to lay out a routing system for one factory, five to ten distributing centers, and twenty or thirty cities. With a chart of this size it would be necessary to eliminate the smaller cities. Whereas if the manufacturer operated a number of factories and a large number of warehouses where stocks were carried, it would, of course, be necessary to use a larger chart in order that the figures and names would be distinguishable.

The chart shown above was worked out on a commodity manufactured in Duluth, and which is distributed from Chicago, New York, Atlanta, St. Louis and San Francisco, only a few of the larger cities where the goods are marketed being designated. All figures give the actual rates on a particular commodity manufactured at Duluth, and which takes class No. 1, in the Western, Official and Southern on l. c. l. shipments. The carload rate from Duluth to New York is computed on the basis of a combination Western and Official Classification. The rate from Duluth to Atlanta was computed on the basis of three classifications, Western, Official and Southern.

The use of this chart to a certain Duluth manufacturer is as follows:

If he has an order to fill, we will say at Peoria, the cheapest and quickest route to ship by would be from the warehouse at Chicago and not the warehouse at St. Louis. The saving by shipping from Chicago would be \$.115 per cwt. As another example, if an order called to make a shipment to Denver, the proper route would be direct from the factory in Duluth. The rate here would be \$2.44 per cwt. It would therefore be more expensive to ship from either the Chicago or St. Louis warehouse.

Supposing a Salt Lake City customer requested a delivery as soon as possible regardless of transportation costs, the goods would naturally be shipped from San Francisco at a freight rate of \$3.675 per cwt., as compared to the l. c. l. rate of \$3.315 between Duluth and Salt Lake City. Thus it may be seen that time, in other words, service, is equal to as much consideration as transportation costs.

The chart illustrated herewith is not intended to show in detail the points as to how far a distributor may ship from one warehouse without overlapping the territory that may be served by another warehouse. But it is intended to give the manufacturer or national distributor some conception of the enormous saving that may be had by adopting some specific plan which will enable him to know the rate to all of the principal cities in which his goods are marketed.

WAREHOUSING NEWS

WAREHOUSING MERCHANDISE

V ALLEY STORAGE CO., Niles, Ohio, has recently acquired a contract for a warehouse, containing 180,000 sq. ft. of space. The interior of the plant is equipped with modern facilities for general storage purposes, being equipped with a steam heating and sprinkler system throughout. It is served by a private siding with a capacity for twelve cars. In addition to this plant, the company operates also a number of detached buildings which are especially equipped for the storage of oils, paints and kindred products.

F. N. Pfeiffer, San Francisco, Cal., has purchased the Acme Transfer and Storage Co., and will carry on a general storage and transfer business.

Lewis W. Lee Co., New Haven, Conn., will erect a one-story warehouse, 47 x 77 ft., of brick and concrete.

Leonard Storage Co., Detroit, Mich., will begin remodeling and fireproofing its six-story warehouse.

Gwinn Milling Co., Columbus, Ohio, has prepared plans for the construction of a five-story warehouse building.

Smith Storage & Transfer Co., Washington, D. C., will erect a warehouse, 70 x 120 ft., of reinforced concrete construction. The plant will be of fireproof construction throughout. When completed, the warehouse will be one of the largest in the city. It will cost in the neighborhood of \$140,000.

Wamsutta Mills Corp., New Bedford, Mass., are contemplating building a two-story addition to their present building. The addition will be equipped with a number of elevators and various labor saving devices. The plans for this addition were drawn previous to the war, but were put one side until this month.

Huntington Transfer & Storage Co., Huntington, W. Va., will erect a seven-story, fireproof, steel, concrete and brick warehouse in the near future.

Chapman Docks Co., Brooklyn, N. Y., will construct a one-story brick warehouse, 40 x 152 ft., to cost in the neighborhood of \$350,000.

John H. Wilkins Co., Washington, D. C., has begun construction on an additional warehouse to cost approximately \$100,000.

Marcy-Buck Co., Watertown, N. J., will erect a two-story fireproof warehouse, 35 x 200 ft., with trackage facilities. The building will be used for general storage and warehouse purposes.

Union Warehouse Corp., Charlotte, N. C., will construct a steel and brick fireproof warehouse for the storing of 20,000 bales of cotton. It is the intention of the company to build a chain of warehouses within the near future. The

cost of this building is estimated about \$400,000.

City Transfer, Van & Storage Co., Long Beach, Cal., will erect a third warehouse, 65 x 350 ft., of reinforced concrete construction. The plant will be equipped with trackage facilities which will enable the company to handle all classes of merchandise. It will specialize in manufacturers' distribution, pool cars, etc.

HOUSEHOLD GOODS

Great Northern Warehouses, Inc., Syracuse, N. Y., has begun work on its seven-story fireproof, reinforced concrete warehouse. Two of the seven floors will be devoted to the storage of household goods and the remainder for merchandise. The plant will be equipped with plate-glass enclosed rooms for piano storage and vaults for the storage of silver and bric-a-brac. In addition to these facilities it will contain a rug vault, a rug cleaning department and a large trunk room.

The building will have trackage facilities with a capacity for sixteen cars. The tracks will run directly into the warehouse, where cars will be unloaded for storage or transfer to the company's delivery motor trucks entirely protected from the weather. When completed the building will cost in the neighborhood of half a million dollars.

TRANSPORTATION

Stone Forwarding Corp., Galveston, Texas, is the name of a newly established firm engaged in the freight business. This company will be engaged solely in the freight brokerage and forwarding business.

City Truck and Transfer Co., San Jose, Cal., has added a fleet of three Kleiber trucks to its present equipment. The company has also purchased a new warehouse, 50 x 100 ft.

E. B. Winward & Sons, Fall River, Mass., have just completed the moving of machinery, equipment, etc., of one of the departments of a cotton mill operated by Sharp Mfg. Co., from New Bedford to Pawtucket, R. I. The moving of the department was considered one of the largest jobs ever handled by a transfer man in the east. In the moving of the department it was necessary for the Winward fleet of trucks to make 600 trips.

INCORPORATIONS

Reliable Warehouse Co., New York, is a new company recently incorporated with a capital of \$100,000 to carry on a jobbing, mercantile and trading business. The incorporators are H. J. Coleman, B. Kaplan, J. Pilof.

M. F. Donovan & Sons, Inc., Jersey City, N. J., has been incorporated with a

capital stock of \$100,000 to carry on a general transfer, trucking, transportation and stevedoring business.

Patricia Transportation Corp., Philadelphia, Pa., has been incorporated with a capital of \$100,000. The officers are Leonard E. Wales, Henry Hopes, A. B. Gray of Wilmington, Del.

Security Warehouse and Storage Co., Greensboro, N. C., has filed article of incorporation with a capital stock of \$250,125. The incorporators are C. B. Penney, R. J. Mebane, both of Greensboro, Ralph Long, Winston-Salem.

Terminal Warehouse Co., Little Rock, Ark., has increased its capital stock from \$37,500 to \$80,000.

Atlas Wharf and Storage Co., Fall River, Mass., has filed articles of incorporation with a capital stock of \$75,000. The directors are E. Eugene Ashley, president; E. Clifton Sherman, treasurer, and Roland G. Pray.

Copicut Warehouse Co., Fall River, Mass., has filed articles of incorporation with a capital stock of \$50,000. The incorporators are Grace L. Terry, James L. Coughlin, and Maud G. Terry.

ASSOCIATIONS

Illinois Furniture Warehousemen's Assn., Chicago, Ill., has elected the following firms to membership: Manhattan Storage & Warehouse Co., New York, Scott Brothers Co., Cleveland, Ohio, White Star Line Transfer & Storage Co., Ocala, Fla., Turners Transfer Co., Lynchburg, Va., Pettit's Storage Warehouse Co., Fort Wayne, Ind., Skellett Company, Minneapolis, Minn., Norwood Transfer Co., Norwood, Ohio, and the E. E. Leach Storage Warehouse, Montclair, N. J.

Port of New York Warehousemen's Bureau of Information, Inc., New York, has elected the following firms to membership: Anheuser Busch Agency, New York, Bronx Refrigerating Co., 520 Westchester Ave., New York, Heermance Storage & Refrigerator Co., 313 Greenwich St., New York, Independent Warehouses, 140 Broadway, New York, India Wharf Brewing Co., Hamilton Ave., Conover St. & India Wharf, Brooklyn, N. Y., National Cold Storage Co., 100 Hudson St., New York.

Santa Clara County Draymen's Assn., San Jose, Cal., is the name of a new association recently organized by the transfer and warehousemen of this city. The following officers were elected: A. W. Nickell, president; J. S. Cunningham, vice-president and W. H. James, secretary and treasurer. The local organization is affiliated with the California State Draymen's Association. A committee has been appointed to consult with the transfermen of Palo Alto, Santa Clara, Mountain View, Los Gatos and Gilroy with a view of co-operation among the cities of that county.

American Warehousemen's Assn. has elected the following firms to membership: Andrews Fireproof Storage Co., Cleveland, Ohio; Baker Transfer & Storage Co., Billings, Mont.; Bekins Fireproof Storage, Seattle, Wash.; Central Warehouse Co., Saginaw, Mich.; Central Warehouse Co., St. Paul, Minn.; Claggett Storage & Transfer Co., Kansas City, Mo.; Commercial Truck & Storage Co., Tacoma, Wash.; Donaldson Transfer & Storage Co., Pittsburgh, Pa.; Ewert & Richter Express & Storage Co., Davenport, Ia.; Federal Warehouse Co., Peoria, Ill.; Green Bay Transfer & Storage Co., Green Bay, Wis.; Huntington Transfer & Storage Co., Huntington, W. Va.; Montana Transfer Co., Inc., Butte, Mont.; Newby Transfer & Storage Co., Kansas City, Mo.; Nichols Transfer & Storage Co., Tulsa, Okla.; O. K. Transfer & Storage Co., Oklahoma City, Okla.; Port Morris Industrial Terminal Co., New York City; Scobey Fireproof Storage Co., San Antonio, Tex.; Syracuse Furniture & Forwarding Co., Inc., Syracuse, N. Y.; Utica Carting & Storage Co., Utica, N. Y.; W. C. Reebie & Bro., Chicago.

MISCELLANEOUS

T. F. Cathcart, Atlanta, Ga., president of the Cathcart Transfer & Storage Co., has created and constructed a new van body mounted on a Federal truck. The van has a loading space of 838 cu. ft. and weighs 11,050 lbs. The double walls of the van are reinforced with steel and highly finished. It is equipped with front and side doors and a driver's seat which will accommodate six passengers and their luggage. The truck is equipped with Sewell cushion wheels all round. This makes the eighth Federal truck purchased by this company.

F. F. Whittle, Ashland, Ore., has purchased the business and equipment of the Ashland Storage & Transfer Co. In addition to the present equipment, Mr. Whittle has purchased two motor trucks.

Standard Transfer and Storage Co., Palo Alto, Cal., is the name of a new company recently organized with an equipment of seven large motor trucks and a warehouse 100 x 175 ft. The company will maintain a furniture repair

and an upholstery department in connection with its transfer business.

John Kelly, Orange, N. J., who for several years was district manager of the New York office of the Edison Storage Battery Co., has been made sales manager of the company's headquarters at Orange, N. J. Mr. Kelly is well known in the storage battery, electric vehicle and accessory industry.

DEATHS

W. Livingston Boyd, Philadelphia, Pa., vice-president and treasurer of the Twentieth Century Storage Warehouse Co., passed away on August 10. Mr. Boyd was at one time the senior member of the largest wholesale grocers in Philadelphia. In December, 1917, Mr. Boyd was elected vice-president and treasurer of the Twentieth Century company. His unfailing courtesy and kindness made him countless friends and his genial presence is sadly missed by his associates.

William H. Langdale, St. Louis, president of the Langan & Taylor Storage Co., died on September 16, of pneumonia.

FREIGHT OVERCHARGES

(Continued from page 17)

their own checking. The rate applicable on the commodity on which the charges were paid can be obtained from the local agent of the carrier. However, this is not a very satisfactory method from the shippers' point of view. If a carrier should quote an incorrect rate there is no way of holding it responsible for such erroneous quotation. The law holds that the published rate on file with the Interstate Commerce Commission is the legal rate. According to law, a carrier can be fined \$200 for each erroneous quotation, but this fine reverts to the Government, and the recipient of the incorrect rate receives nothing but the annoyance he has been caused.

How to Get Rate Data

Reliable rate information can be obtained from the General Freight Agent's office of the initial carrier. That office is in a better position to quote the correct rate, inasmuch as it keeps a complete and up-to-date file of tariffs in which all changes are included. In the event of the rate charged not corresponding to that quoted, and an overcharge on the freight bill results, claim should be filed with the local agent for the amount of the overcharge, quoting as authority for the rate claimed the letter of the General Freight Agent's office giving the rate.

Better results are obtained, however, by sending claims direct to the claim agent of the carrier to which the charges were paid. This procedure saves time, as the claim is usually adjusted more promptly by that office.

Another method which can be followed in the case of shipments received collect, or shipped prepaid, at regular intervals from or to specific points, is to secure copies of the tariffs covering the rates on such shipments from the Chief of Tariff Bureau of the initial railroad. When requesting tariffs, the shipper should ask to have his name placed on the carrier's mailing list so that he may receive the re-issues and corrections of the tariffs originally requested. (It has been estimated that there are over 4000

changes in transportation rates and regulations issued every twenty-four hours.) This will enable the shipper to have on file the correct rate at all times, for when a change is made in the rate, the latest supplement to the tariff will specify what the change is.

This arrangement, however, is not always a satisfactory one, especially to the average layman who, not being familiar with freight tariffs, would doubtless experience difficulty in interpreting them. These tariffs, as a general rule, are more or less complicated, and it usually requires one who is experienced in using them to be successful in determining just what a particular rate is.

Many shippers endeavor to eliminate overcharges by showing the correct rate on the bill of lading. Even though this course is pursued, there is no assurance that the correct rate will be charged. It has been the experience of shippers that, regardless of the fact that they exercise every precaution in preparing their shipments, showing on the bill of lading the correct rate and tariff references covering it, the railroad clerk in billing the shipment will often place on the way-bill a rate which, in his opinion, is the correct one, ignoring the information noted by the shipper. In many cases the rate applied is higher than the correct one. Consequently the shipper is overcharged.

In summing up the entire question of overcharges, it can readily be seen that the question of whether or not the charges paid the carrier are assessed on the basis of the correct rate, plays an important part in the conduct of every large or small manufacturer.

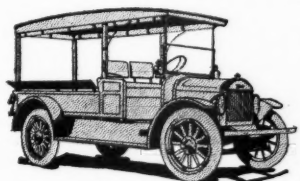
The shipper who has no facilities for checking his freight and express bills may not consider the questions discussed in this article of sufficient importance to cause him to change his present methods, but the average percentage of overcharges mentioned herein, 5 per cent, at least, should cause him to give the auditing of freight bills serious thought.

Stewarts haul the load for less

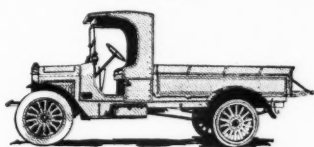
—Less in first cost

—Less in running cost

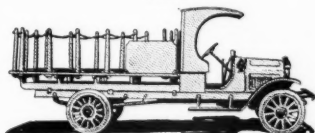
—Less in time lost



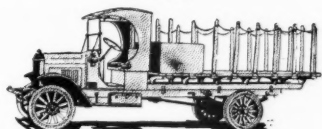
Model 11— $\frac{3}{4}$ -Ton Capacity Chassis—\$1195
Electric Starter—Electric Lights—
Magneto Ignition



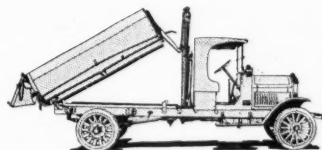
Model 8—1-Ton Capacity Chassis
\$1650



Model 9— $1\frac{1}{2}$ -Ton Capacity Chassis
\$1975



Model 7—2-Ton Capacity Chassis
\$2575



Model 10— $3\frac{1}{2}$ -Ton Capacity Chassis
\$3500

All Prices F. O. B. Buffalo

Stewart construction is simplified by eliminating all needless parts giving you a more economical truck and saving you considerable in first cost.

This means real economy in operation—less weight to wear tires and consume gas and oil.

What a Big Trucking Firm Says:

After nine months of continuous service we find the "Stewart" 2-ton truck which we purchased from you fully up to your guarantees and satisfactory in every detail required for our service.

So well pleased are we that we trust you will lose no time in putting through our order for the $3\frac{1}{2}$ -ton "Stewart" truck.

(Signed)

MITTNACHT & CO., INC.

New York City, N. Y.

Stewart's constant reliability is proved in over 500 American cities and in 27 foreign countries.

In 5 Years No Stewart Has Worn Out

Stewart

MOTOR TRUCKS

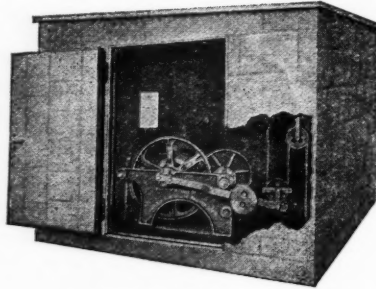
Stewart Motor Corporation, 422 E. Delavan Ave., Buffalo, N. Y., U. S. A.

Write for free booklet, "HOW TO CHOOSE A MOTOR TRUCK."

One Rope Controls—Hoists, Lowers and Holds the Load For Outrigger and Hatchway Service

In Use at—

Terminal Warehouse Co., Prov., R. I.
National Dock & Storage Co., East Boston, Mass.
New York Dock Co., Brooklyn, N. Y.
Crimmins & Peirce, Boston, Mass.
New Bedford Storage Warehouse Co., New Bedford, Mass.
Borden Condensed Milk Co., New York City.
Eddystone Mfg. Co., Phil., Pa.
Jamestown Worsted Mills, Jamestown, N. Y.
Wuskanut Mills, Farnumville, Mass.
New York Central R. R. Hay Depots, 33rd St. and 11th Ave., New York City.
Palmer Docks, Brooklyn, N. Y.
Railway Supply & Manufacturing Co., Cincinnati, Ohio.
S. Silberman & Sons, Chicago, Ill.
Utica Steam and Mohawk Valley Cotton Mills Co., Utica, N. Y.
Canada, Atlantic & Plant Steamship Co., Boston, Mass.



Size No. 15

1500 lb. Whip in Pent House of
The Charles River Stores
Beverly Street, Boston, Mass.

VOLNEY W. MASON & CO.

INC.

ESTABLISHED 1860
INCORPORATED 1902
TELEPHONE GASPEE 1211

PROVIDENCE, R. I., U. S. A.

PATENT WHIP HOISTS

For Mills, Docks, Cotton and
Woolen Warehouses, Etc.

EXPRESS SERVICE
200-400 feet per minute

SEVERAL THOUSAND IN USE.

FRICITION PULLEYS
AND CLUTCHES

Many of the largest Terminal and Storage Warehouses, Docks, and Mills in the United States have from one to fifty or more of our whips.

Our Whips probably handle 75% or more of the wool taken in and out of the Warehouses of Boston, Mass.

Engineers and Architects make special recommendation of, as well as specifying them in their plans.

Their special value is in handling baled Wool, Cotton, Hay, Barrels, and cased merchandise.

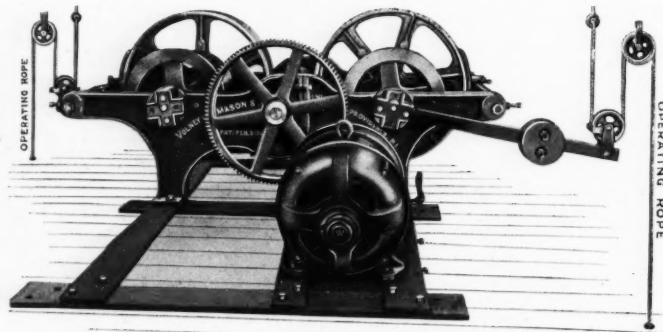
Whips are used as auxiliary and express service to elevators.

In many Warehouses they will undoubtedly quickly earn their cost.

By seeing our whips at work and noting the speed, you will quickly figure their saving in time, labor, power and cost, also the simplicity of these machines, and their upkeep and maintenance amount to practically nothing, and no doubt any of our various customers will confirm this.

Will you stop to think of this matter?

Their value and utility and we will be very glad to hear from you.



No. 25 Double Whip

1500 lbs. capacity on each of the drums 18" dia. x 14" face. Motor, 20 H. P.
Designed to save space, and hoists from both sides of the building.

N. Y. C. & H. R. R. Co., Hay depots, 33rd St. and 11th Ave., N. Y., installed sixty-one of our whips (vertical type) in 1888 which are all in operation at the present time.

Many a big concern loses a large percentage of its profit by not being familiar with existing facilities for handling commodities in and out of the warehouse.

IN USE AT

Terminal Wharf and R. R. Warehouse, Charlestown Dist., Boston, Mass. Have eighteen double whips as shown. See this advertisement on page 56 of this issue.

Six installed in 1909, six in 1910, six in 1913.

N. Y. Dock Co., Brooklyn, N. Y. (1)
Terminal Warehouse Co., Providence, R. I. (6)

National Dock & Storage Co., East Boston, Mass. (1)

Quincy Market Storage and Warehouse Co., Boston, Mass., have at Charles River stores six 1500 lb. single whips and several at their other warehouses.

VOLNEY W. MASON & CO., Inc.

D. P. KAERCHER ELECTRICIAN and ENGINEER

76 SUMMER STREET

REPRESENTATIVE
FOR BOSTON AND VICINITY

BOSTON, MASS.

PROVIDENCE, R. I.

WINNING the Packard National Efficiency Test makes me competent to judge upkeep on a 1½-ton truck working under capacity loads, and I will say right here that the sum total of minimum operating expense is—dependable equipment.

Our winning truck used UNITED STATES TIRES—the front set covering over 16,000 miles—the rear over 14,000. Today, both sets look good for 20,000 miles more.

I can truthfully state that UNITED STATES TIRES aided materially in winning the contest.

James L. Drury
— Driver.



Equipped with United States Tires this truck made the best record over 1760 contestants.



Moores & Dunford of Chicago

THE WAREHOUSE ENGINEERS

Entire Organization Devoted Exclusively

DESIGN, CONSTRUCTION AND MAINTENANCE

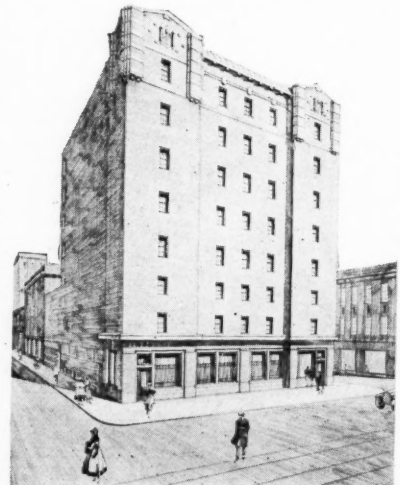
All Types of Warehouses

Through their Special Service department, they are prepared to assist you in every way in formulating your plans for that Modern Fireproof Warehouse. Whether it be:

Choosing a site; investigating increased business possibilities; deciding the layout of a building that will best satisfy your requirements; estimating first cost, maintenance expense, or reasonable returns; determining practical method of financing; or any combination of these, they can and will gladly advise you.

"Your Move!"

The work they have done throughout the country is their best advertisement.



Recognized by their clients as experts of sound judgment.

MOORES & DUNFORD WAREHOUSE ENGINEERS

Shippers Index

A Guide to representative Transfer and Storage
Companies arranged by States and Towns

DISTRIBUTION

FOR a period of years the cost of PRODUCTION has been consistently cut down in every important manufacturing industry. This, of course, with due consideration to the reduced purchasing power of the dollar. This has been accomplished by the employment of the best brains of the world who have made a careful study and analysis of efficiency methods in the various vocational industries.

Over the same given period of time DISTRIBUTION costs have as consistently increased. This for the reason that while competition has been keen on production, but little thought has been given to efficient distribution of the manufactured article. Too many times the manufacturer has demanded a certain price F.O.B. at his factory and was little concerned as to the price which the consumer had to pay.

THE TIMES ARE CHANGING and the wide-awake manufacturer is realizing that his future competition is to be based upon THE PRICE DELIVERED TO THE CONSUMER.

Some manufacturers are even now stamping the retail price on their goods and this custom will increase in popularity. These same manufacturers are waking up to the fact that under old methods the retail price of the article which they manufactured was two and three times the price received by them—ALL DUE TO THE ENORMOUS COST OF DISTRIBUTION.

The transfer and storage industry never had so golden an opportunity as the present time. You should be experts in distribution.

WHY NOT TELL THESE MANUFACTURERS JUST THE SERVICE YOU CAN RENDER TO CUT DOWN THE COST OF DISTRIBUTION?

Coming Events

Meetings Scheduled by Leading Associations in the Industry

Southern Furniture Warehousemen's Ass'n.....	Jacksonville, Fla.	November
Indiana Transfer and Warehousemen's Ass'n	Indianapolis, Ind.	November 29
American Warehousemen's Ass'n.....	Hotel Gibson, Cincinnati, Ohio	December 10
Texas Transfer & Storagemen's Ass'n	Houston, Tex.	January, 1920
Massachusetts Storage Warehousemen's Ass'n.	Third Thursday of each month, Exchange Club. Annual Meeting	January, 1920
New Jersey Furniture Warehousemen's Ass'n.....	Newark, N. J. Third Wednesday of each month, Down Town Club, Newark, N. J.	
Pennsylvania Furniture Warehousemen's & Van Owners' Ass'n	Annual Meeting.....	February, 1920
Transfer & Storage Men's Ass'n of Montana	Billings, Mont.	February, 1920
Northwest Transfer and Warehousemen's Ass'n.	Seattle, Wash.	May, 1920
National Industrial Traffic League	Annual Meeting	Chicago, November 12
Syracuse Traffic Club	Syracuse, N. Y. Third Thursday of each month. Chamber of Commerce. Annual Meeting third Thursday of January, 1920.	
Newark, N. J. Traffic Club	First Monday of each month, except November, Robert Treat Hotel, Newark, N. J.	
New York Traffic Club.....	Waldorf-Astoria, New York. Annual meeting, November 25	

BIRMINGHAM, ALA.**HARRIS TRANSFER
AND WAREHOUSE COMPANY**

(Equipped to Handle Anything)

MODERN FIREPROOF WAREHOUSE

Special Attention Given to Packing and Shipping

When shipping to Birmingham, consign goods to Harris
—he will look after your interests, also those
of your customer

Offices: CHAMBER OF COMMERCE BLDG.

BIRMINGHAM, ALA.**Wittichen Coal & Transfer Co.**

12 South 20th Street

Transfer and storage of household goods. Packing and
shipping. Forwarding and distributing agents. Heavy
Haulage, Motor Service.

BUILDING MATERIAL DEALERS

LITTLE ROCK, ARK.**WAREHOUSING
AND FORWARDING**Distributors of Pool Cars, Parcel Post Catalogs and
Merchandise**TERMINAL
WAREHOUSE COMPANY**

109 - 111 RECTOR AVENUE

All track connection

YOUR ADVERTISEMENT
IN THE**Shippers' Index
Section**IS READ BY THE PEOPLE
YOU MOST DESIRE TO
GET IN TOUCH
WITH**BERKELEY, CAL.****STUDENTS
EXPRESS & TRANSFER CO.**MOVING
STORING
FORWARDING

2132 SHATTUCK AVENUE

LOS ANGELES, CAL.**BEST IN THE WEST****LOS ANGELES WAREHOUSE**When you Ship to California
Remember to Ship to**BEKINS FIREPROOF STORAGE**Prompt and Intelligent Returns,
your customers satisfiedLos Angeles
1341 Figueroa St.Oakland
22d & San PabloSan Francisco
13th and Mission Sts.**LOS ANGELES, CAL.****Shattuck & Nimmo
WAREHOUSE CO.****MOVING, STORING, PACKING
SHIPPING**MERCHANDISE DISTRIBUTION
FROM OUR OWN SPUR TRACKSMANUFACTURERS consolidating carloads
for Southern California distribution are assured
of efficient and prompt service by consigning
them in our care. Rates on request.WAREHOUSEMEN, consign your household
goods shipments to us for prompt distribution
and quick returns.

MEMBERS OF

Pacific Coast Furniture Warehousemen's Association, American
Chain of Warehouses, National Distributing Division,
Local Rotary Club and Chamber of Commerce

LOS ANGELES, CAL.

The Most Complete and Efficient Warehouse West of Chicago

—and a new six-story, fireproof, steel and concrete warehouse adds 500,000 square feet to our storage capacity.

We have the large facilities—complete in every detail—and a big, broad business policy that insures service and co-operation.

For the safe storage of goods is only part of our work. Our display rooms, selling force, office and desk space facilities coupled with our storage service enables Eastern Manufacturers to establish a branch on the Pacific Coast at a minimum expense. In fact we are acting as sales agents for some of our clients—selling and distributing their goods to the people west of the Rockies.

Having complete docking facilities for large ocean-going steamers enables our clients to conduct their business with the Orient and the western countries of South America from this Western branch office.

In the construction of our warehouse we have embodied the most modern equipment, all the latest time saving innovations and improvements; men, elevators, electric trucks, scales and chutes are provided to load and unload directly from cars into drays and trucks or into the building as desired. We are practically connected with every railroad in the city.

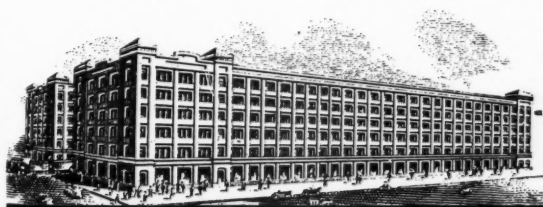
But the details of our service are given in an interesting booklet that tells what we can do for you—write for it—write now.

UNION TERMINAL WAREHOUSE CO.

7th and Central Ave.

Los Angeles, Cal.

This is the latest addition to our storage facilities.



UNION TERMINAL WAREHOUSE CO.

DENVER, COLO.

THE WEICKER TRANSFER & STORAGE COMPANY

Office, 1017 Seventeenth Street

New Fireproof Warehouse on Track

Storage of Merchandise and Household Goods

Distribution of Car Lots a Specialty

Every Facility for Handling Safes, Boilers and Heavy Machinery. Complete Fleet of Motor Trucks and Modern Equipment

Members

American Warehousemen's Association
Illinois Furniture Warehousemen's Association
New York Furniture Warehousemen's Association
Pacific Coast Furniture Warehousemen's Association
Central Warehousemen's Club
American Chain of Warehouses
Southern Furniture Warehousemen's Association

HARTFORD, CONN.

Tel. Connection Office: 335 Trumbull St.

Safety Vaults for Silverware

GEORGE E. DEWEY & CO.

JOSEPH M. PELCHAT Proprietor

Local and Long Distance

FURNITURE AND PIANO MOVING

Packing, Crating and Shipping of
PIANOS, FURNITURES, CHINA

Only Fireproof Storage Warehouse in Hartford

NEW LONDON, CONN.

B. B. Gardner Storage Co., Inc.

18 BLACKHALL STREET

PIANO AND FURNITURE PACKER, MOVER
AND SHIPPER

Safe Mover—Freight and Baggage Transfer—STORAGE

WATERBURY, CONN.

The Ralph N. Blakeslee Co.

TRANSFER AND STORAGE

Special Facilities for Moving Heavy Machinery and Safes

Storage Warehouse for Merchandise

Separate Apartments for Furniture

If the City to which you are shipping
is not represented in this list, choose
the nearest as the geographical
arrangement will help you.

WASHINGTON, D. C.

Moving
Shipping
Storing



Smith Transfer & Storage Co.

Office: 912 S Street, N. W.

Let Us Handle Your Washington Business

WE WILL PLEASE YOU

WASHINGTON, D. C.

Southern Transfer and Distributing Co.

727 12th STREET, N. W.
WASHINGTON, D. C.

Washington is the natural center of distribution for Maryland, Virginia, West Virginia, District of Columbia and Southeastern Pennsylvania.

We have had five years' experience in this class of work and are in a position to give maximum service at a minimum cost.

A FEW OF OUR CLIENTS:

Abilena Sales Co.	General Forwarding Co.
American Law Co.	Horlicks Malted Milk Co.
Burlingame Chemical Co.	Kress & Owen Co.
Belding Bros. & Co.	(Glyco Thymoline)
Bedford Springs Co., Limited	McKesson & Robbins
Detmer Woolen Co.	Lawyers Co-Operative
French Lick Springs Hotel Co.	Publishing Co.
(Pluto Water)	Pyro Chemical Co.
Funk & Wagnalls	S. S. White Dental Manufacturing Co.
	The Pineoleum Co., Inc.
	West Publishing Co.

Contracts made for the distribution of all kinds of advertising matter, trade papers, publications, calendars, samples and general merchandise.

by a uniformed force. Addressing and Mailing in all its Branches Re-Consigning, Forwarding and General Storage L. C. L. a Specialty

WASHINGTON, D. C.

UNITED STATES STORAGE CO.

418-420 TENTH STREET, N. W.



MEMBERS:
N. Y. Furniture Warehousemen's Association
Illinois Furniture Warehousemen's Association
Southern Furniture Warehousemen's Association

PROMPT REMITTANCES
Efficient and Courteous Service
MOTOR TRUCKS
and
PADDED VANS
Modern Fireproof Warehouse

JACKSONVILLE, FLA.

UNION TERMINAL WAREHOUSE COMPANY

EAST UNION and IONIA STREETS

55 Rental Compartments Track Capacity 52 Cars

Building of reinforced concrete with sprinkler system. Low Insurance Rate. Sub-Post Office and branch Western Union Telegraph. Joint Railroad Agent. L.C.L. freight loaded direct for line of road.

GENERAL MERCHANDISE STORAGE AND FORWARDING

Special attention to handling of pool cars.

ATLANTA, GA.

CATHCART TRANSFER & STORAGE COMPANY

Moves, Stores, Packs, Ships
Household Goods Exclusively

Office and Warehouse, 6-8 MADISON AVE.

ATLANTA, GA.

Warehousemen

MORROW

TRANSFER & STORAGE COMPANY

COMMERCIAL STORAGE

Distributors—R. R. Trackage—Carloads a Specialty

Household Goods Moved, Stored, Packed and Shipped
180-184 MARIETTA STREET

ATLANTA, GA.

Warehousemen

Distributors

Southern Sales & Storage Co.

Markets secured for Meritorious Mdse.
Concrete Warehouse, R. R. Trackage,
Make our office your Southern Headquarters,
We have an efficient Sales Force.
13 Produce Place

BOISE, IDAHO

PEASLEY TRANSFER & STORAGE COMPANY

STORAGE, TRANSFER AND FORWARDING
NINTH AND GROVE STREETS

CHICAGO, ILL.

EMPIRE Storage Company

Convenient to All Railroad Switches.

Modern FIREPROOF
Warehouses for Storage of
Household Goods



MOVING PACKING SHIPPING

Heated Piano Rooms
Art Galleries
Vaults for Valuables
Private Compartments
for Furniture
Automobiles Stored
Motor Truck Service



Established 1891

Capacity 1,500,000 cu. ft.
Low Insurance Rate.

General Office
52nd St. and
Cottage Grove Ave.
Chicago

MEMBERS:
New York Furniture Warehousemen's Association
Illinois Furniture Warehousemen's Association

CHICAGO, ILL.

BEKINS HOUSEHOLD SHIPPING COMPANY

Reduced Rates on Household Goods, Automobiles
and Machinery
General Offices, 805 BEDFORD BLDG., Chicago
NEW YORK, BOSTON, BUFFALO, CINCINNATI

CHICAGO, ILL.

FORT DEARBORN FIREPROOF STORAGE COMPANY

4165-29 Clifton Ave., near Broadway and Wilson.

Fireproof
Storage.
Motor-
Van
Service.



Pool Car
Handling
a
Specialty

The only warehouse located on the Great North Shore with private railroad switch track at its door, serving efficiently *Edge-water, Ravenswood, Sheridan Park, Rogers Park, Evanston* and the *Wilson Ave.* district.

Consignments from all railroads bill to Wilson Ave. Switch C. M. & St. P. Ry.

CHICAGO, ILL.

Soo Terminal Warehouse Co.

General Merchandise Storage and Distribution
Direct Rail and Tunnel Connection with All Trunk Lines.
519 West Twelfth St.
"THE ECONOMICAL WAY"

FORT WAYNE, IND.

BROWN TRUCKING COMPANY

MOVING, DISTRIBUTING, STORAGE AND
GENERAL TRANSFER—MOTOR SERVICE

Pool Cars a Specialty

Office, 125 W. Columbia Street

FORT WAYNE, IND.

PETTIT'S STORAGE WAREHOUSE COMPANY

414 E. COLUMBIA STREET
W. L. Pettit, Jr., Pres. (Est. 1910) E. K. Pettit, Sec.
Transfer and Storage of Household Goods, Merchandise, New Autos,
Implements. Heavy Haulage. Motor Service. Safe Deposit Vaults.
FACTORY DISTRIBUTORS

INDIANAPOLIS, IND.



Our Service consists of
Warehouse for Manufactured Articles.
Prompt shipment for all orders.
Prompt reports of shipments as you want them.
Trucks for Drayage Equipment.

We are, in fact, ready to be **your** Shipping Department.

Located in the heart of the U. S. A., within 12 to 24 hours of your customers in Indiana, Ohio, Illinois, Kentucky and Michigan.

Insurance rate, 30c.—extra hazardous goods not taken.

Six-story and basement, heavy mill construction, sprinkler equipped, A. D. T. Watchman Service.

We solicit your business and refer you to any of our customers as to our ability to do it right.

Railroads:

Penna. Ry.; C. C. C. & St. L. Ry.; C.
I. & W. Ry.; L. E. & W. Ry.; Ills.
Central Ry.; C. I. & L. Ry.
18 Traction Freight Lines.

The Indianapolis Warehouse Co., Inc.

FRANK A. TODD, V. P. and Gen'l Mgr.

West New York and Canal

INDIANAPOLIS

INDIANA

INDIANAPOLIS, IND.

We Have the Very Best of Equipment for Handling
Heavy Machinery, Boilers, Engines, Tanks
Vaults and Safes for Erecting Smoke Stacks



INVESTMENT \$200,000.00

We have just completed one of the most modern fire-proof warehouses in the country—centrally located on a privately owned railroad switch accommodating eight cars.

We are equipped to give the very best service in all kinds of moving and packing. All shipments consigned to our care will receive prompt attention and our twenty-five years' experience and reliability insures this service.

HOGAN TRANSFER & STORAGE CO.

Member
N. F. W. A. and I. F. W. A.

Established
1892

LOUISVILLE, KY.



Established 1902
Capital and Surplus
\$100,000.00

Packers, manufacturers and canners seeking a market, or increased distribution, in the SOUTH AND SOUTHWEST are invited to investigate our constructive

SALES SERVICE

We do all necessary retail INTRODUCTORY WORK, both with jobber and retailer.

In fact, we make ourselves your business' RIGHT ARM in our territory.

We are more than brokers—we are business builders.

Your account, if intrusted to us, will receive the personal attention of an experienced and trained department head.

If you have an article of merit, WE CAN SELL IT.

Warehouse Facilities

We own and operate a modern warehouse equipped with the latest improved sprinkler system. Lowest insurance rates. Centrally located with unexcelled trackage facilities. Capacity, 400 carloads. Can handle fourteen cars per day. Prompt and accurate service.

Pickrell & Craig Co.
(Inc.)

WICHITA, KANS.

A. F. JONES, President
A. S. PARKS, Vice-President
J. H. BRUCH, Sec'y and Gen'l Mgr.



THE FINEST FIREPROOF
WAREHOUSE IN THE
MIDDLE WEST



General Warehousing
Storage, forwarding and Distributing

ROCK ISLAND AVENUE & 2ND STREET

Phone: Market 2757

Capital \$100,000.00

Loans made on goods stored

LOUISVILLE, KY.

SAFETY

Transfer & Storage Co., Inc.

Offices: 105 South Hancock Street

HOUSEHOLD GOODS

Moved, Stored, Packed, Forwarded

—Motor Truck Service—

BALTIMORE, MD.

Phone Gilmor 3000.

THOS. H. VICKERY, President.

**BALTIMORE STORAGE
& MOVING COMPANY**

1710 to 1720 Edmondson Ave.

Members { N. Y. F. W. A.
{ Balt. F. W. A.

Fireproof Wh's'e in rear

BALTIMORE, MD.

THE KAUFMAN
Fire-proof Storage Warehouses



BALTIMORE, MD.**Graham's Storage Warehouse***The Largest in Baltimore*

Established 1887 GEO. D. MAGRUDER, Pres. and Gen'l Manager



800 Storage rooms, one to ten Van load capacity.
Vans load and unload in the centre of the building.

MOVING — PACKING — SHIPPING
MOTOR EQUIPMENT

Send us your Baltimore Consignment

Members, N. Y. F. W. A. — I. F. W. A. — Baltimore, F. W. A.

BALTIMORE, MD.

Send your Baltimore shipments to
MONUMENTAL STORAGE COMPANY

**BALTIMORE, MD.**

Fred I. Savage

George P. Savage

THE SAVAGE TRANSFER CO.
TRANSFER AND LIVERY

We Haul Anything, Anywhere, Any Time, by Motor or Horse-Drawn Vehicles

C. & P. PHONES: SOUTH { 321
1657

1202-4-6-8-10-12-14 Race Street, BALTIMORE, MD.
Storage Warehouse: 519 W. Lee St. Garage: 118-120 W. West St.
THEATRICAL HAULING A SPECIALTY

BALTIMORE, MD.**Security Storage & Trust Company**

15 W. North Avenue

FIREPROOF WAREHOUSES**MOTOR EQUIPMENT**

EFFICIENT SERVICE
TO WAREHOUSEMEN

Members of

Baltimore Furniture Warehousemen's Associations
New York, Illinois and American Warehousemen's Associations

HOLYOKE, MASS.**Sheldons Transfer & Storage**

ESTABLISHED 1870

Main Office 637 Main St.

Branch Office 81 Main St.

SPECIALISTS IN POOL CARS

Storage Space, 50,000 sq.ft. N.Y.N.H.&H. and B.&M. Sidings

HOLYOKE, MASS.

Holyoke Warehouse Co.

Park and Crescent Streets

Modern Fireproof
Warehouse

B. & M. R. R. Siding

We specialize in Merchandise Distribution, Pool Cars or Spot Stocks, Yard Storage, New Autos, Trucks, Farm Implements and Machinery.

TRY OUR SERVICE**Heavy Haulage****Truck Service****BOSTON, MASS.**

Established 1880

T. G. BUCKLEY CO.

MOVERS OF HOUSEHOLD GOODS AND PIANOS
MOTOR TRUCK SERVICE

REINFORCED CONCRETE WAREHOUSE**OFFICE and WAREHOUSE, 690 DUDLEY STREET**

Members N. Y. F. W. A.

**If Your City Isn't
Represented Here**

Put it on the shippers' map by
inserting your card in this space.

BOSTON, MASS.

H. H. WIGGIN, PRESIDENT

S. G. SPEAR, TREASURER

TERMINAL WHARF AND RAILROAD WAREHOUSE COMPANY

50 Terminal Street

Charlestown District, Boston

**Storage of Wool, Cotton and General Merchandise**

LOWEST INSURANCE RATES
DIRECT TRACK CONNECTIONS
BOSTON & MAINE R. R.

SHIPPING DIRECTIONS
MYSTIC WHARF
BOSTON, MASS.

Fumigation of Foreign Cotton and Cotton Waste

AND OTHER MATERIALS AS REQUIRED
BY U. S. GOVERNMENT

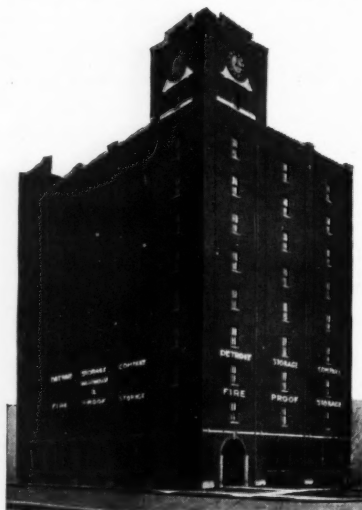
CARTAGE TO AND
FROM FREIGHT STATIONS
AND BOAT LINES

WEIGHING, SAMPLING, AND ALL
SERVICES USUALLY PERFORMED
BY AN UP-TO-DATE WAREHOUSE

We will Lease or Build to Suit Tenants

DETROIT, MICH.

DETROIT'S LEADING MOVERS.

Detroit Storage Co.

Main Office and Fireproof Warehouse
MOVING, PACKING, SHIPPING
MOTOR EQUIPMENT
Corner East Grand Boulevard and Beaubien St.,
DETROIT, MICH.

DETROIT, MICH.

GENERAL STORAGE AND CARTAGE CO.

Main Offices:

Grand River and Lorain Avenues

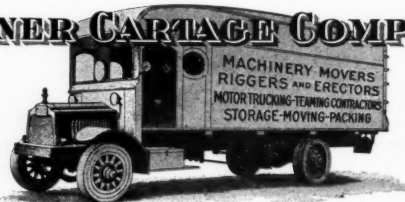
GENERAL MERCHANDISE STORAGE

Forwarding, Distributing and Reshipping Agents. Custom
House Brokers—Expert Traffic Service

SHIP US YOUR CARLOADS FOR DISTRIBUTION

50 Car Track Space on M. C. R. R. and Grand Trunk
Motor Trucks—1 to 10 Tons Capacity

DETROIT, MICH.

TURNER CARTAGE COMPANY

Phone
Main
2660

Shipments of household goods and merchandise will be handled under personal supervision of company officials.

334-340 Lafayette Blvd., DETROIT, MICH.

MINNEAPOLIS, MINN.



The Gateway to The Great Northwest

We Can Handle Your Entire Distribution Throughout the Northwest

Our modern warehouse combined with our efficient organization is thoroughly equipped with every facility for the speedy and economical handling of your goods in the Great Northwest.

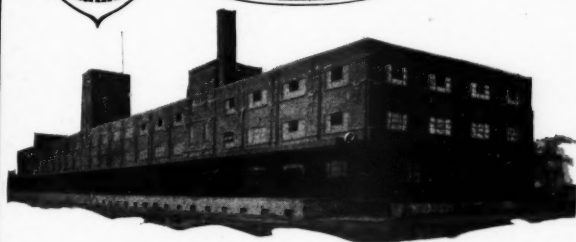
Our loading platform adjoining the East Hennepin Joint Freight Station permits direct handling and distribution of all less-than-carload freight to the NINE RAILROADS of Minneapolis through this single freight station without drayage—a facility not found elsewhere west of Chicago.

We specialize in receiving carload shipments and reshipping the goods to various points in less-than-carload lots. We also handle all classes of merchandise for storage.

Consign your Shipments to

Minneapolis Terminal Warehouse Company

Minnesota Transfer
East Hennepin Station



GRAND RAPIDS, MICH.

Shank Fireproof Storage Company

Largest Fireproof Storage Warehouse in Western Michigan.
Merchandise and Household Goods.

Members I. F. W. A.

MINNEAPOLIS, MINN.

Members American Warehousemen's Ass'n
Central Warehousemen's Club

Security Warehouse Company

334 First Street, North

Railroad Tracks to all lines—General Mdse. Storage. Merchandise Distributors giving services of a branch house without its expense. Our high grade buildings secure lowest insurance rates. 800,000 sq. ft. of floor space. Fleet of motor trucks making store door delivery daily in all parts of the Twin Cities. Freight shipments to all points in the Northwest without charge for cartage.

ST. PAUL, MINN.

The Central Warehouse Co.

Minnesota Transfer, Minn.

Merchandise, Bonded and Cold Storage
Industrial Sites

At the junction of nine railroads, midway between the Twin Cities. L. C. L. shipping without carting. Motor trucks for local deliveries. 40 acres of ground. Six miles of trackage operated by our electric locomotives.

KANSAS CITY, MO.

Are You Giving Your Customers

Service?

The present congested conditions of our railroads and slow movement of less than carload freight, and the possibility of embargoes on many commodities, make it more imperative than ever that you carry suitable stocks of your goods at important Western distributing centers to properly take care of your trade in that territory.

We invite you to make use of our warehouse as a branch of your own establishment for this purpose. Our building is of modern fireproof construction and equipment—automatic sprinkler system—low insurance rates—free switching of carloads. Ample teaming equipment and twenty years of knowing how, insures prompt, efficient and satisfactory service.

D. A. MORR

TRANSFER & STORAGE COMPANY

Members { Central Warehousemen's Club
American Chain of Warehouses
American Warehousemen's Association
Illinois Furniture Warehousemen's Association
New York Furniture Warehousemen's Association

Please mention this paper

ST. LOUIS MO.

A Transfer Company with an Ability to Serve

ST. LOUIS
**America's Fourth
Largest City**

Nine Freight Depots; One Mile of Platforms
More than 250,000 Square Feet of Storage
and Warehouse Space
225 Teams and 75 Motor Trucks

We are especially well equipped for the prompt handling of consolidated cars for distribution both locally and for points beyond. When consigned care Columbia Transfer Company (La Salle Street Station) you get the benefit of **Daily Package Car Service** from St. Louis to the West, Southwest and Southeast.

**Leased Motor Truck
Service** • By Hour, Day or Contract •

**COLUMBIA
TRANSFER CO.**
**America's Largest
Transfer
Organization**
\$2,000,000 Capital

OMAHA, NEBR.

Gordon Fireproof Warehouse & Van Co.

Main Office: 219 NORTH 11th STREET

Six warehouses covering over one city block. 200,000 square feet of floor space. Four warehouses equipped with automatic sprinkler systems.

Warehouses served by private tracks on the C. B. & Q. and the C. & N. W. (joint track); and the Illinois Central. All roads absorb switching charges.

Accommodations for brokers, jobbers, automobile manufacturers and dealers.

Household Goods Packed, Stored and Forwarded

MOVING — TRANSFER — FORWARDING

MEMBER { New York Furniture Warehousemen's Association.
Illinois Furniture Warehousemen's Association.
Central Warehousemen's Club.
Pacific Coast Furniture Warehousemen's Association.

OMAHA, NEBR.

THE "CITY OF OPPORTUNITY"

Represented by the

Pacific Storage & Warehouse Co.

1007-9-11 JONES STREET

We have studied the problems of the national distributor of manufactured articles and merchandise and have both the experience and facilities to care for business of this kind in a way that will satisfy the most critical.

Write us about the goods you have to be distributed in this territory and we shall be glad to quote prices for delivery, storage or reshipping.

**MOTOR TRUCK SERVICE — 75,000
SQUARE FEET OF STORAGE SPACE**

Members of the Central Warehousemen's Club

MISSOULA, MONT.**Security Warehouse & Transfer Co.**

(Incorporated)

Warehousing of every description: Storing, Packing, Carting, Shipping. R.R. Siding. Manufacturers' distributors. We solicit your Western Montana shipments.

ATLANTIC CITY, N. J.**ELDRIDGE EXPRESS and STORAGE WAREHOUSE CO.**

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Storage for
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INITIAL CARTAGE ELIMINATED BY SIDING
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Transfer of Household Goods Storage of Household Goods
Freight, Heavy Haulage, Mdse., New Autos, Imple-
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Direct Delivery Service Throughout Philadelphia

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Established 1887

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Members of New Jersey—New York—Illinois—Southern
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Send your shipments to Brooklyn in my care.
Both your customers and yourself will receive
prompt, careful and courteous attention.Storage, Moving, Packing and
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Carloads Distributed. Manufacturers' Distributors.
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It is our business to carry out your policy in Brooklyn.

Consign your shipments us c/o thru Bush Terminal

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District Terminal, Brooklyn." This is the center of Greater
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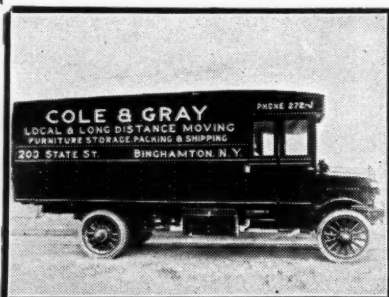
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33 Years in BusinessMerchandise
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Shipments Given
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Auto Trucks
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**BUFFALO
STORAGE & CARTING COMPANY**STORAGE, TRANSFER AND
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Warehouse on New York Central Tracks

BUFFALO, N. Y.

O. J. GLENN & SON

Everything in the Line of Moving,
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WE WILL LOOK AFTER YOUR INTEREST,
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OUR large, specially-built, six-story household goods warehouse is one of the finest between New York and Chicago. (Capacity 1000 van loads.) With our corps of expert workmen and unequalled facilities, we can render prompt and efficient service to your Buffalo patrons.

*Furniture Stored, Packed or Shipped
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Convenient to the railroad switches Low Insurance Rates
Motor Trucks for Prompt Delivery Fireproof Vaults

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Elmira Storage & Sales Co., Inc.

BEST DISTRIBUTING POINT in Western New York and Pennsylvania.

Warehouse, 50,000 square feet floor space, can accommodate 100 cars of merchandise.

Free switching privileges D. L. & W., Erie, Penna. and L. V. railroads. Switch enters building; can load and unload under cover.

General Merchandise and Storage. Forwarding and Transferring a specialty.

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We do our own trucking.

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Household Goods and Merchandise Storage
Every facility for the prompt and efficient

DISTRIBUTION OF MANUFACTURERS' STOCKS

Transfer of goods and heavy and long distance hauling.
Motor and horse drawn vans. An expert packing force.

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Moving—Packing—Storing—Shipping
A terminal of every railroad in immediate vicinity. Bill "Harlem Terminal." Automobiles taken in dead storage.

Consign your shipment to us for proper attention.

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We are specialists in the storage and distribution of general merchandise accounts and earnestly solicit your patronage.

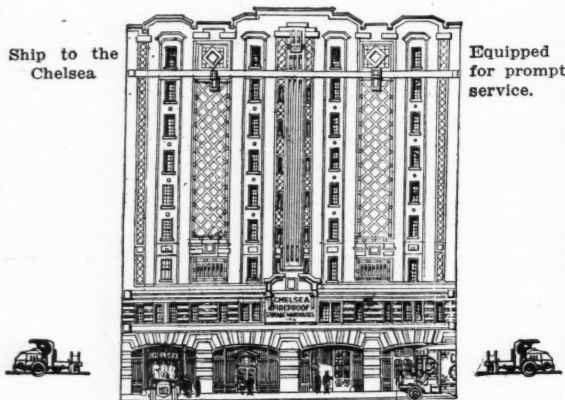
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Chelsea Fireproof Storage Warehouses, Inc.**COMPLETE SERVICE TO SHIPPERS****Storage, Moving, Packing, Shipping, Express
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AN EFFICIENT PACKING FORCE**

Adjacent to all Freight Terminals

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"That means something"Members of New York Furniture Warehousemen's Ass'n.
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Julius Kindermann & SonsThree large fireproof storage warehouses adjacent
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"EXPERT SERVICE PAYS"**MOVING PACKING
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of SILVER PLATE and VALUABLES**Our central location and modern equipment
enable us to offer you an unusually efficient
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Grant Wayne, Manager

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Consign all C. L. & L. C. L. Shipments for Delivery to Warehouse

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D. L. & W. R. R.—135th St. and Harlem River Station
Erie R. R.—135th St. and Harlem River Station
Lehigh Valley R. R.—E. 124th Street Station
L. I. R. R.—Harlem and Morrisania Station
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JOSEPH A. SCHANTZ COMPANY

173-219 CENTRAL AVENUE



We have every facility for handling your Rochester shipments

**Two Fireproof Warehouses
Two Non-fireproof Warehouses
Large Fleet of Modern Motor Vans**

By mailing your Rochester bills of lading to us you are guaranteeing the most prompt and courteous service to your patrons. You are also protecting your own interests, because we will return all collections promptly and watch the details carefully.

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SCHENECTADY

is a natural Distributing Center. We make a specialty of L. C. L. Forwarding and Distribution of Pool Cars.

Two up-to-date Warehouses. Track connections with all Railroads entering City.

Storage of Household Goods, Merchandise, Implements, Yard Storage. Heavy Haulage. Motor Service.

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MACHINERY AND SAFE MOVING A SPECIALTY

"Unexcelled SERVICE"

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Moving**HOUSEHOLD GOODS**Packing
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Rochester "Chief" Rug and Carpet Cleaners

Allen and N. Washington Streets

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ROCHESTER CARTING CO.Members New York Warehousemen's Association
Distributors of Car Load FreightUnsurpassed facilities for Storing, Transferring and Forwarding
Merchandise and Household Goods
Two Large Storage Warehouses

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DISTRIBUTING
STORAGE**Merchandise** RESHIPING
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For Wholesalers and Manufacturers.

Moving Safes, Boilers and Heavy Machinery a Specialty.
Household Goods Stored and Shipped. Motor Service.**If Your City Isn't
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Distribution
Given
Especial
Attention

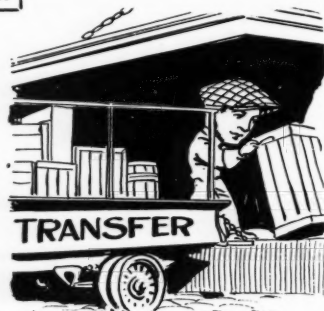


Storage of Household Goods, Merchandise and Machinery
IF YOU WANT REAL SERVICE—TELL ME
YOUR REQUIREMENTS

HOOKWAY'S
Storage Warehouse

725 E. Water St.

SYRACUSE, N. Y.



CONSIGN your Syracuse shipments
of merchandise or Household
Goods to us. Railroad siding in con-
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Mail bills of lading direct to us. We make
no charge for collections and remit promptly.

A big transfer job does not stagger us. We
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Yours for Co-operative Service

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Consign Utica Shipments

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**JONES-CLARK TRUCKING AND
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SPECIAL ATTENTION given to Mer-
chandise Distribution and Pool Car Ship-
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New Autos and Machinery.

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**UTICA
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Storage, Trucking, Forwarding,
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MOTOR VANS FOR LONG DISTANCE

Members New York and Illinois Associations.

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Carolina Storage & Distributing Co.

Raleigh

North Carolina

We store, reship and distribute all classes of freight.
Modern brick warehouses located on railroad tracks.
Pool car distribution a specialty. Being centrally located,
reaching a population of over 1,500,000 within a radius
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**STORAGE, DRAYING, PACKING AND
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Unsurpassed Facilities for Handling Pool Cars

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Fireproof and Non-Fireproof

Business Established in 1867 and built up by

A SERVICE THAT SATISFIES

Prompt Deliveries by Motor
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Warehousemen's
Association

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PAGELS**

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"STACEY FIRST"

SERVICE
FIREPROOF AND NON-FIRE-
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MODERN MOTOR
VAN EQUIPMENT

RELIABILITY

Established 1891 Investment \$250,000
Your interests carefully protected

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SERVICE IS THE THING

For You and Your CLEVELAND Customers

LET US SERVE THEM AS
THEY SHOULD BE SERVED

Our Equipment—Fireproof and
Non-Fireproof Storage. Motors
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Our Organization is complete and
is more than ample for the largest
and most difficult proposition.

We Conserve Your Interests

**THE CENTRAL STORAGE
WAREHOUSE CO.**

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We are equipped to handle carloads and less than
carloads for out-of-town shippers. Warehouse located
on Pennsylvania Railroad, where we can store your
merchandise for future orders.

The Wallace Transfer & Forwarding Co.
222 & 224 East Front Street

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THERE IS
NOTHING TOO LARGE
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**THE BUCKEYE
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Complete Facilities for Storing and Forwarding
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Fireproof Warehouse
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Satisfactory Service Assured

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Modern Fireproof Buildings Service Complete
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Bill All Shipments for Springfield, Ohio, to

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Complete Facilities for Distribution of Pool Car Shipments
Moving—Packing—Shipping—Storing
Household Goods and Merchandise

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WAREHOUSES

Furniture and Merchandise Storage

Motor Trucks Heavy Hauling Distributing

The Cotter System

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108 SUMMIT STREETMember of New York, Illinois, and Southern Furniture
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**THE TOLEDO
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128 SUMMIT STREET

AUTO SERVICE—FIREPROOF STORAGE

Household Goods and Automobiles Moved, Packed, Shipped and
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100% SERVICE

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Storage space 180,000 sq. ft.
Track capacity twelve cars.**The Valley Storage Company**

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in the thickly populated

SHENANGO and MAHONING
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Motor Truck Service

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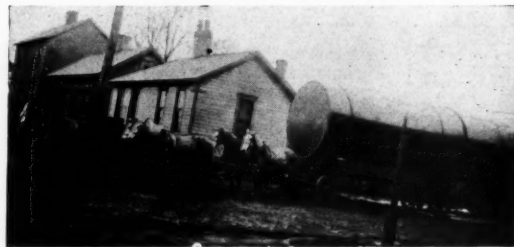
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We can handle any class of storage, and make distribu-
tion of pool cars. Working arrangements with Cuya-
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Negotiable Receipts IssuedSprinkler System
Low Insurance

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Local and Long Distance Hauling
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**ALBERT ADAMS
STORAGE AND TRANSFER CO.**
25-29-33 Ninth St.Merchandise and Household Goods,
Distributors, Carload Distribution.
50,000 Square Feet of Floor Space

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The Island & Terminal Transfer Co.

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New Three-story Fireproof Building, also Non-fireproof
Buildings

MERCHANDISE AND HOUSEHOLD GOODS

Complete Distributing
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Railroad Siding

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100 miles from any other jobbing center

MANUFACTURERSShould investigate Western Oklahoma territory.
No better point for distribution.
No better facilities than ours.**GOODNER-KRUMM-FARR CO.**
All Kinds Transfer and Storage

OKLAHOMA CITY, OKLA.

Fireproof
Warehouses for
Household
Goods and
Merchandise.

Members of I.F.W.A.,
New York, American
Chain, Central, South-
ern, Pacific Coast
Warehousemen's Asso-
ciation.



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A. C. WEICKER, President

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Tulsa Warehouse Company

Inc. \$200,000

Our business is your business in Tulsa.
We store your merchandise.
We look after your shipments.
We collect your drafts and accounts.
We distribute your samples.
We make you reliable credit reports.
We trace your cars and save you demurrage.
We furnish offices for rent to our patrons.
We loan you money on your warehouse receipts.
We give you real service promptly.
If there is anything else we can do for you, our services
are at your command.

ORRA E. UPP, President and Manager.

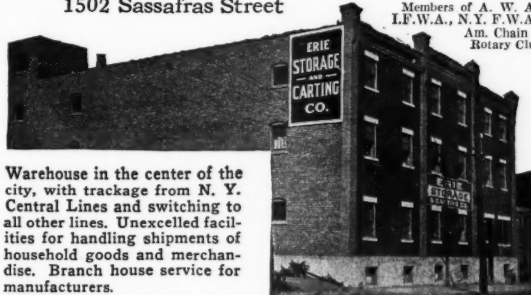
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ERIE

STORAGE & CARTING COMPANY

1502 Sassafras Street

Members of A. W. A.,
I.F.W.A., N.Y. F.W.A.,
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Warehouse in the center of the
city, with trackage from N. Y.
Central Lines and switching to
all other lines. Unexcelled facil-
ities for handling shipments of
household goods and merchan-
dise. Branch house service for
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Pool Cars

Received-Checked-Distributed
and

Forwarded in Less Than Car Lots

Penna. RR Harrisburg Storage Co.
Sidings Harrisburg, Pa.

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MONTGOMERY & CO.

STORAGE WAREHOUSES

Merchandise Storage—Transferring—Forwarding

Direct Track Facilities

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Members A. W. A. and American Chain of Warehouses

If the city to which you are
shipping is not represented in
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as the geographical arrange-
ment will help you.

LANCASTER, PA.

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STORAGE—DISTRIBUTORS—FORWARDERS

Merchandise and Household Goods

MANUFACTURERS' DISTRIBUTORS

MOTOR SERVICE

Siding on P. R. R. and P. & R.

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Piano Moving a Specialty

Distributing and Forwarding Agents; Packing
Fireproof Warehouse

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WAREHOUSE 500 LOADS CAPACITY

Our motor trucks are operated by careful men who
are thoroughly experienced in handling furniture
and pianos.

We are in a position to guarantee you satisfaction
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is the distribution of goods for
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ATLAS

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Office and Warehouse:
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Member Pennsylvania,
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and Southern Furniture
Warehousemen's Associations

Service is the measure of the difference between good work and poor.

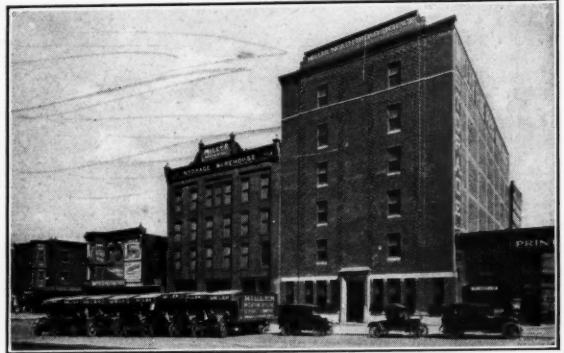
Service of the right sort in the storage, moving, packing and shipping of household goods and office furnishings exclusively, constitutes our business.

As it relates to shipments consigned to us, we interpret service to require safeguarding the interests of the shipping warehouse, prompt remittance of collections, fair charges and treatment to customers, and to all—courtesy.

We solicit your Philadelphia shipments.

For West Philadelphia and general city delivery consign C. L. and L. C. L. shipments—P. R. R., 30th and Market Sts. Station; B. & O. R. R., 24th and Race Sts. Station; P. & R. Rwy., 23rd and Arch Sts. Station.

PHILADELPHIA, PA.



Our large fleet of motor trucks enables us to render quick and efficient service to your patrons.

We are accessible to all depots and suburbs of our city. Our warehouses are within two blocks of North Philadelphia Station of the Pennsylvania Railroad and the 12th and York Streets Station of the Philadelphia & Reading or the Baltimore & Ohio.

Collections through our office will assure prompt returns.

Fireproof and Non-Fireproof Warehouses

Miller North Broad Storage Co.

2709-2721 North Broad Street

PHILADELPHIA, PA.

Columbia Ave. Storage Company

1511 to 1519 Columbia Avenue

EXCLUSIVELY HOUSEHOLD GOODS

Motor Equipment

Moving Packing Shipping

Operated by the

TERMINAL WAREHOUSE AND TRANSFER CO.

Delaware Avenue and Green Street

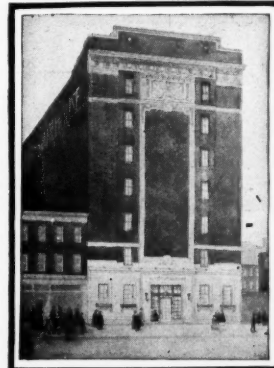
GENERAL MERCHANDISE

Forwarding and Distributing

9 Warehouses. 16 Acres of Floor Space. Trackage Facilities for 17 Cars.

Members { American Warehousemen's Association
 { American Chain of Warehouses

PHILADELPHIA, PA.



20th CENTURY

THE LAST WORD IN WAREHOUSES

A solid concrete building. Best location in Philadelphia. A fleet of Pierce Arrow enclosed vans. We operate a large garage adjoining our warehouse capable of accommodating the largest van built. Try us when your van is in Philadelphia. All collections through our office promptly remitted. Members New York Warehousemen's Association and Pennsylvania Warehousemen's Association.

20th CENTURY STORAGE WAREHOUSE CO.

3120-22-24-26-28-30 MARKET STREET
(Opposite West Philadelphia Station P. R. R.)

PHILADELPHIA, PA.

PENN STORAGE & VAN COMPANY

2136 MARKET STREET

"Let Wightman do it"

PHILADELPHIA, PA.

Established 1884

The SAFETY STORAGE VAN & PACKING CO.

3712-3714 Market Street

Motor Truck Moving - Storage - Domestic and Foreign Packing

PITTSBURGH, PA.

Fireproof
I will grow four
more stories

Garage & Stables

BLANK'S Transfer & Storage Co.

Moving, Packing and Storage

MOTOR TRUCK SERVICE—SEPARATE ROOMS FOR STORAGE



Fireproof

6344

Penn

Ave.

E E



Fireproof

PITTSBURGH, PA.

HASLEY BROTHERS

TRANSFER AND STORAGE

939 So. Canal St., N. S.

MOVERS, PACKERS, SHIPPERS OF HOUSEHOLD GOODS
FIRE PROTECTED STORAGE—MEMBERS A. W. A.

PITTSBURGH, PA.

HOEVELER WAREHOUSE COMPANY

MOVERS AND STORERS

750 MILLVALE AVENUE

PITTSBURGH, PENNA.

J. O'NEIL EXPRESS & STORAGE

N. S. PITTSBURGH, PENNA.

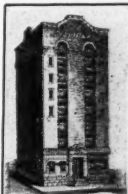
Furniture and Piano Moving a Specialty. General Hauling.

NEW FIREPROOF STORAGE HOUSE

Separate Rooms

PITTSBURGH, PA.

SERVICE TO THE CORRESPONDENT



CONSISTS in giving the correspondence of those we represent prompt acknowledgment, safeguarding their interests, mailing checks in settlement of accounts, and furnishing final reports of transactions.



THIS service also includes an element of importance:—the handling of shipments upon arrival in a manner conducive to joint customer's approval, whose future business we are always eager to secure.



Ship via Pennsylvania to East Liberty Station, (Pittsburgh, Pa.)

Established 1889

HAUGH & KEENAN STORAGE AND TRANSFER CO.

CENTRE AND EUCLID AVENUES

PITTSBURGH, PA.

MURDOCH

STORAGE & TRANSFER COMPANY

General Office, and Warehouses

546 NEVILLE STREET
PITTSBURGH, PA.

Branch Warehouse, Wilksburg, Pa.

Murdoch Means Service

PITTSBURGH, PA.

SHIP YOUR CARS TO US FOR DISTRIBUTION

Pool Cars

Received, Checked, Distributed
Reshipped in Less Than Car Lots**Pittsburg Distributing Co.**708 Duquesne Way
Pittsburg, Pa.

PITTSBURGH, PA.

Oakland Ex. & Transfer Co.

Packers, Storers and Shippers of
HOUSEHOLD GOODS
229 ATWOOD STREET

PITTSBURGH, PA.

Building 100 x 125—8 Stories Front
9 Stories Rear—Garage in Basement—Just Completed



Shanahan
Transfer & Storage Company

Fireproof Storage for Household Goods.
All Separate—1200 Fireproof Rooms.
Furniture Moved and Packed for Shipment.
Motor Vans, Trucks. Special Heated Piano Floor
Fifth Ave. at McKee Place
(Next Door to You)
Established 1865. Over 50 Years

PITTSBURGH, PA.

WEBER
EXPRESS & STORAGE COMPANY
GENERAL HAULING

Moving, Packing and Storing of Furniture and Pianos
4 6 2 0 HENRY STREET

SCRANTON, PA.
WILKES-BARRE, PA.

Established 1894.
"He Profits Most Who Serves Best"
(Rotary)

The Quackenbush
Warehouse Co.

Incorporated

Warehousing of every description. Storing, Packing
Carting, Shipping. R.R. Siding. Manufacturers
Distributors

Correspondence Solicited

Wilkes-Barre, Pa.

Scranton, Pa.

SCRANTON, PA.

"The World Moves—So Does Post"

R. F. POST

ESTATE

4 4 LACKAWANNA AVENUE
Freight, Furniture, Pianos, Safes, Machinery, Boilers, Stacks, etc.
DRAYMAN, RIGGER, AND WAREHOUSE

PROVIDENCE, R. I.

CADY MOVING & STORAGE CO.

STORAGE WAREHOUSES
Household Furniture and Pianos
Packing, Crating and Shipping.
62 to 70 Dudley Street.

CHATTANOOGA, TENN.

THE CHATTANOOGA
TRANSFER & STORAGE CO.

Fireproof Warehouse

Furniture Merchandise
Packed Stored Shipped
Heavy Hauling

Motor and Horse Drawn Equipment

NASHVILLE, TENN.

E. M. BOND

FIREPROOF STORAGE CO.
HOUSEHOLD GOODS AND MERCHANDISE
Modern Fireproof Building
Private Siding With All Rail Connections.

EL PASO, TEXAS

WESTERN
TRANSFER & STORAGE COMPANY

220-26 S. STANTON STREET
ONLY FIREPROOF STORAGE IN EL PASO
Forwarders and Distributors—Trucking of all kinds—Distribution
Cars a specialty—Warehouse on Track

SAN ANTONIO, TEX.

Established 1880

FREIGHT

AUTO SERVICE

STORAGE

OFFICIAL DISTRIBUTORS
MERCHANTS' TRANSFER CO.

SAFETY

COURTESY

SERVICE

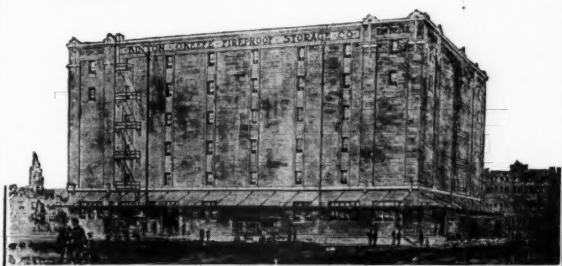
WACO, TEXAS

MASON**TRANSFER & STORAGE COMPANY**

217-219 JACKSON STREET

Merchandise Storage, Forwarders & Distribution Truck-
ing of all kinds. Warehouse on track. 7 Denby Trucks

FORT WORTH, TEXAS



Binyon-O'Keefe Fireproof Storage Company

Est. 1875

Your consignments to Fort Worth will receive intelligent service. We have a siding on the Rock Island Railroad with free switching from all lines. Fireproof warehouse, 90,000 sq. ft., yard storage, factory distributors.

Members of

Illinois Furniture Warehousemen's Association
Southern Furniture Warehousemen's Association
Central Warehousemen's Association

WACO, TEXAS

Weatherred Transfer and Storage Co., Inc.

Modern Warehouse Facilities—Trackage on all roads
100,000 SQUARE FEET STORAGE SPACE

We do pool car distributing, moving, packing, shipping, storage, long distance hauling by trucks.

PETERSBURG, VA.

Southern Bonded Warehouse Corp.

BONDED STORAGE

Distributors Motor Truck Service
Private Railroad Sidings

Our Negotiable Receipts Acceptable at all Banks

SEATTLE, WASH.

United Warehouse Company SEATTLE, WASH.

Established 1895

GENERAL STORAGE AND DISTRIBUTING

SPOKANE, WASH.

McALLISTER WAREHOUSE COMPANY

W. E. Burke, Manager

Manufacturers' Agents and Jobbers, Regular and Cold Storage Space.
We give you personal service, solicit business and call upon your trade either in Spokane or in tributary territory
Carloads received, stored and distributed.
Your account is desired.

TACOMA, WASH.

COMMERCIAL TRUCK & STORAGE CO.



WE OWN BOTH WAREHOUSES

Established 20 years in Tacoma—and know how to handle your requirements

Storage (bonded and free) Merchandise and H. H. Goods

Moving and Packing by Experts C. L. & L. C. L. Distribution

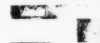
Collections Remitted Promptly

We Solicit Your Business

TACOMA, WASH.

PACIFIC STORAGE and TRANSFER CO., Inc.

Merchandise and Furniture Storage



Distributors and Forwarders

Merchandise and Furniture

SEND YOUR POOL CARS IN OUR CARE

Auto Truck and Transfer Service

N. P. RY. SIDE TRACKS

BROADWAY AND 17th STREET

YAKIMA, WASH.

MILLER & LENINGTON

CONTRACTORS

DISTRIBUTING and FORWARDING AGENTS

[TRANSFER—STORAGE—WAREHOUSING]

Motor Trucks and Team Equipment for All and Every Kind of
Hauling

SHIP IN OUR CARE and let us be "At your service with best
of service"

Office: 10 East A Street

Sidney Hotel Bldg.

Phone 571

YAKIMA, WASH.

J. J. CRAWFORD, PRES.

W. E. NORTON, SEC

YAKIMA TRANSFER & STORAGE CO.

Office and general storage warehouse No. 25 North Front,
directly opposite Northern Pacific passenger station.

22,000 square feet of compartment storage for household
goods, pianos etc.

Track warehouse No. 11 South First Ave, 30,000 square
feet of floor space devoted exclusively to the storage of mer-
chandise. Every facility for clean, economical, storage and
handling of commercial accounts.

Auto trucks and teams.

TORONTO, CANADA



CANADA

• Edmonton • Saskatoon • VANCOUVER • Calgary • Moose Jaw • Regina • Lethbridge • Winnipeg • Montreal • St. John • HALIFAX • TORONTO

HOWELL CONSOLIDATED CAR SERVICE

Bridges the gap between Eastern and Western Canada

Manufacturers competing in the Canadian market should study the unique features of the problem of distribution in Canada.

Canada is a country of long distances between East and West. Again, the Canadian Freight Classification differs in many important respects from those in effect south of the border.

We have studied the problems in this connection and the results of our study and experience are at your disposal. Our consolidated Car Service reduces freight charges by from twenty to fifty per cent and eliminates delay in transit. Carloads go forward regularly from Toronto to all the principal points in Western Canada.

Commodities shipped include Food Products, Confectionery, Groceries of all kinds, Woodenware, Hardware, Paints and Varnishes, Paper, Stationery, Drugs and Toilet Preparations.

By warehousing with the Howell Warehouses and using Howell Consolidated Car Service you can cover Canada from coast to coast, thus consolidating your stock and reducing detail and overhead expense.

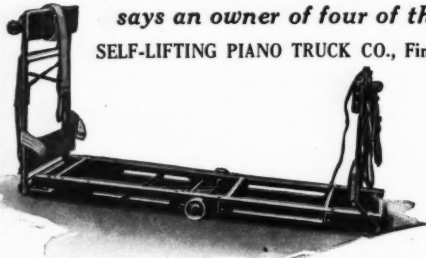
The Howell Warehouses, Limited
311 King Street, East
TORONTO, ONTARIO
(Member American Warehousemen's Association)

A TRIUMPH is your

BUCKEYE SILL PIANO TRUCK

says an owner of four of them

SELF-LIFTING PIANO TRUCK CO., Findlay, O.



End Truck Covers
Straps

We specialize in

Furniture Pads and Covers

Write us today for prices and we will submit samples.

Prompt shipments and perfect satisfaction guaranteed.

TOLEDO CANVAS PAD COMPANY
2014 Adams Street
TOLEDO, OHIO

Safepack
more than waterproof

wrap-stuff, case and bale-lining

Real Protection for Goods in Storage or Transit; Proof against moisture, dust, dirt, rust, mildew and moths. Rats won't eat Safepack. Whatever your storage or shipping problem submit it to Safepack for intelligent solving. *Samples on request. Address Dept. T.*

Safepack Mills
Boston U S A

G. W. Jones Lumber Co.
807 Lumber Exchange Building
CHICAGO

Manufacturers of
CRATING AND BOXING LUMBER OF ALL KINDS

We refer you to the leading warehouses in Chicago as to the quality of stock we ship.

Wholesale Prices Stock Guaranteed



Pneumatics Save Money for This Transfer Line

"The Goodyear Pneumatic Truck Tires on my truck are a very valuable improvement over the solid tire, as they lower the consumption of fuel and eliminate most of the vibration that causes mechanical trouble in trucks on solid tires."

"I do considerable out-of-town moving, and find that my pneumatics take me over all kinds of roads, covering more territory in less time than we did before."

"Since using the pneumatics I have not had a bit of mechanical repair expense, and the easy riding saves the load from damage on rough roads."—Otto H. Meves & Co., of Sheboygan, Wis.

HERE we have a plain demonstration that it pays to use Goodyear Cord Pneumatic Truck Tires.

In this instance, Mr. Otto Meves of Sheboygan finds that mechanical repair expense is practically eliminated; he finds that loads are protected and that gasoline costs are lower.

He also finds that on Goodyear Cord Pneumatics his truck negotiates all kinds of roads and covers more territory in less time than when solids were used.

It is important for other truck owners to know that similar economic truck performance can not result from a haphazard selection of tires.

But it can result when you use the right size and type

of Goodyear Truck Tire, selected in the painstaking and accurate Goodyear way. This is Goodyear Service.

It means that an analysis of your trucking conditions may show that you should use Goodyear Pneumatics, or it may show that Goodyear Solids or Cushions will serve best.

Goodyear Service means much to truck owners who use it, because it operates solely to help them save money—before truck tires are bought and during the entire life of the tires.

It is no longer necessary for you to forego any of the benefits that Goodyears are built to give you. If you will go to the nearest Goodyear Truck Tire Service Station, they will willingly explain the plan.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

GOODYEAR
AKRON



“You Can Trust That Spring”

THAT is the basis on which Harvey Springs are sold to the truck owner. You can trust them absolutely because they are built on such rigid standards that possibility of breakage is simply out of the question.

Harvey Springs are specially designed for easy riding and great strength. They're boltless—no weak spots in them. And they're tempered exactly right, each leaf exactly the same by the patented Harvey process. Then, too, they are put to the supreme Harvey test for strength—a test under such a great force that no ordinary spring could endure it. That's why we guarantee Harvey springs against breakage or sagging. The margin of safety, the reserve strength, is so great that Harvey springs live up to their guarantee under all emergencies.

Storage and transfer men favor Harvey Springs because there are never any accidents with these springs to tie up their service. There's a Harvey Spring for every make and model of truck. Write us for full information and the name of the nearest Harvey dealer.



Harvey Spring & Forging Co.
112A 17th St. Racine, Wis.

Buy One "Mutual"

(2 ton—3½ ton—5 ton)

Put it into your hardest service, side-by-side with the truck or trucks that you now consider to be the "best." Keep a careful record of its ton-mile performance, all costs counted.



"Yes, let us buy one 2 ton **MUTUAL** and watch its work. Their argument seems sound and their specifications are remarkably good."

MUTUAL—"America's Greatest Truck"

SOMEbody had to build "America's Greatest Truck"—for the time was ripe for another step forward in truck design, engineering and construction—a step toward greater endurance, better control and greater economy under heavy haulage conditions.

There were so many good trucks on the market that it was no small task to create a machine that would be recognized immediately by every competent authority as enough better than the best of the rest to justify us in advertising it as—

"America's Greatest Truck"

We chose the safe way—analyzing all modern trucks and studying the features that gave the most satisfactory service under the most exacting conditions.

Then we spent a year engineering these greatest units into one "super-truck"—adopting each unit in so large a size that the **MUTUAL** truck could always be safely given a

50% Overload

SPECIFICATIONS (2 Ton)

Comparing with most 3 ton trucks

Wisconsin 4x6 "three-ton" Engine.
Duplex Co.'s Duplex Governor.
Westinghouse Electric Starting and Lighting.
Hole-Shaw Universal Clutch.
Spicer Universal Joints—3 joints in shaft.
Fuller-Transmission (3 ton size). 4 Speeds and reverse.
Sheldon 2½ ton Worm-drive Rear Axle (built for 20% overload).
Sheldon Ball-Bearing Steering-Knuckle Front Axle.
Parish & Bingham Pressed Steel Frame.
Mather Chrome Vanadium Springs.
Bound-Brook Oilless Bushings. Thruout.
Smith Metal Wheels for Solid Tires.
Dayton Metal Wheels for Pneumatic Tires.
Goodyear or Firestone 36x4 solid front tires.
Goodyear or Firestone 36x8 solid rear tires.
Goodyear or Firestone Pneumatic Tires (extra).
Ross Steering Gear—20 in. wheel.
Perflex Radiator—Cast Tank Type.
Bosch Magneto—dust proof, water proof.
Stromberg Carburetor.
Powell Muffler—12 sections.
Weather-tite Cab, fully enclosed. Lazy back seat.
Electric Steel Castings—at vital points.
25 Gallon Gasoline Tank.
2½ Gallon Reserve Lubricating Oil Tank.

AND, after it was all completed, we figured our costs, adding only 9% for capital's share—and were pleased, mightily, to find that we could offer this truck at a remarkably attractive price.

How Can We Over-size, Over-power, Yet UNDER-PRICE the **MUTUAL TRUCK**?

Because our factory is strictly modern and our "overhead" low, with no excessive salaries.

And our financial burden is light, as we need provide for dividends on a relatively low capitalization.

For, our Company is, in a large sense, a community enterprise, in which the dominant purpose is to build a vast industry that will ultimately bring thousands of skilled workers to Sullivan County, Indiana, by making this county not only the home of "America's Greatest Truck;" but of America's Greatest Truck Company.

OUR Directors and Stockholders, include 500 wealthy farmers, stock-men, coal mine owners, proprietors of natural gas and oil properties and the leading business and professional men of the City and County of Sullivan, Indiana.

They realized that the way to build a great industry, quickly is to give truck buyers more for their money than they can secure in any other truck at any price. And, that, by building, in very truth—

"America's Greatest Truck"

and sacrificing their own immediate profits, as investors, they will all share in the permanent benefits of enlarged home markets for their products.

Every buyer of a **MUTUAL TRUCK**, therefore, gets the benefit of a county's ambition to make Sullivan the home of an industry that will soon cover acres of busy buildings.

Send for circular giving the super-specifications on which we base—and prove—our claim.

MUTUAL TRUCK COMPANY
Sullivan, Indiana, U. S. A.

Regular Equipment

Tho' our prices are lower than are asked for high-class trucks of equal rating, and tho' the **Mutual** is oversized thruout we give as part of regular equipment many things that are offered only as high-priced "extras" by other truck makers including—

Electric Starting and Lighting.
Metal Wheels—costing us 55% more than wood.

36 x 8 rear tires, where others give 7 in. or 4 in. dual.

"Weather tite," easy-seat cab, worth at least \$150 extra.

Over-size pressed steel frame.

Bound-brook Bushings.

Four Speeds forward and reverse.

Electric Steel Castings at vital points.

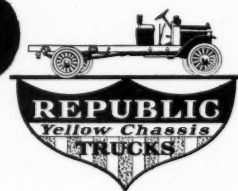
Reserve Lubricating Oil Tank.



THERE is no getting around the facts about Republic Trucks: Republic sales growth has no parallel. Republic Trucks stand better, with more American business men, than any other. They are rendering heroic service to a greater number of businesses than any other. These simple facts have made the Republic Company, in six years, the largest manufacturer of motor trucks in the world.

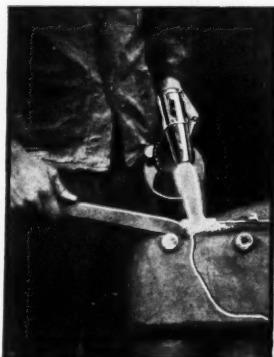
Republic Motor Truck Co., Inc., 948 Michigan Ave., Alma, Mich.

REPUBLIC TRUCKS





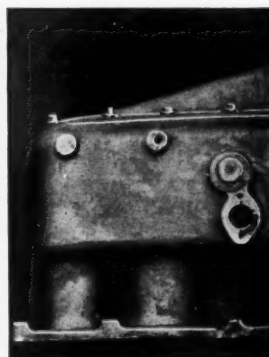
You first clean the crack thoroughly and bevel the edges



Then heat for a moment with an ordinary hand torch (300 degrees ample) and apply the filler



While the hot metal filler is still soft, pack and roll it smooth



Allow to cool for five minutes, dress off with a file, and the job is done

Now Anybody Can Repair a Break or Crack

IT makes a Perfect Braze and a permanent Repair—no trouble—no difficulty—no danger of casting getting out of alignment, warping or distorting.

Peters' Metallic Filler is a new low temperature brazing compound, that can be used in repairing cast iron, bronze, or brass, and is particularly adapted for repairing cracks in water jackets. This compound, a recent discovery by K. R. Peters, melts at 300° and forms a perfect braze which is permanent and wear resisting.

The great value of Peters' Metallic Filler lies in the ease with which brazing can be accomplished—broken

cylinders can be mended without dismantling or removing the engine and with full assurance that there will be no danger of warping the bore or changing the alignment.

The discovery of Peters' Metallic Filler replaces the old method of brazing whereby the casting must be heated to a cherry red with all the consequent dangers of cracking, distorting and warping. Likewise it renders obsolete the old process of welding which required slow preheating and subsequent annealing. Do not confuse Peters' Metallic Filler, which is a metal and make a permanent repair, with cement, which is merely a paste.

Peters' Metallic Filler is quick, efficient and inexpensive. It is the modern method of brazing and has already won highest recognition and praise. Large size repairmen's package \$5.50, consumers' package \$3.00. If your dealer does not have it, order direct.

JOBBERS

Peters' Metallic Filler is going to earn big profits for jobbers who can look ahead and see the market for this new low temperature brazing compound. Write today for full information and discounts.

Aluminum Brazing Solder Co.

260 Montgomery Building
CHESTER, PA.

An interesting and valuable book, "Information for the Expert Mechanic" will be mailed free upon request.

PETERS' METALLIC FILLER

(Nicro Spelter)



What Would You Think of a Manufacturer—

—who wrote to you with a lead pencil—"We are saving much money because we do not use typewriters and telephones"? You might well wonder whether his merchandise was as much out of date as his business methods.

You know that modern time and labor saving appliances are not added expenses, but that they have superseded slower and more costly processes.

The concern which uses your business paper to tell you its business story is simply using a modern piece of selling machinery to make it easier for you to buy intelligently with the least waste of your time and theirs.

For the right kind of advertising shortens the distance between human minds just as certainly as the railroad shortens the distance between places. It is still possible to walk from New York to Chicago, and it is still possible for a business to get along without advertising, BUT—

—bear in mind that the seller who does not advertise does NOT save the cost of advertising, for it costs more to do the work of advertising by other means. Consistent advertisers are progressive merchandisers, and it pays to do business with them.

You are invited to consult us freely about
Business Papers or Business Paper Advertising

THE ASSOCIATED BUSINESS PAPERS, INC.

The International Association of Trade and Technical Papers

Headquarters, 220 West 42nd Street, New York

Marine Engineering
Manufacturing Jeweler
Marine Review
Metal Worker, Plumber and
Steam Fitter
Millinery Trade Review
Mill Supplies
Mining and Scientific Press
Modern Hospital
Motor Age
Motorcycle & Bicycle Illustrated
Motor Truck
Motor World
National Builder
National Druggist
National Petroleum News
Nautical Gazette
Northwestern Druggist
Nugent's, The Garment Weekly
Power
Power Boating
Power Plant Engineering

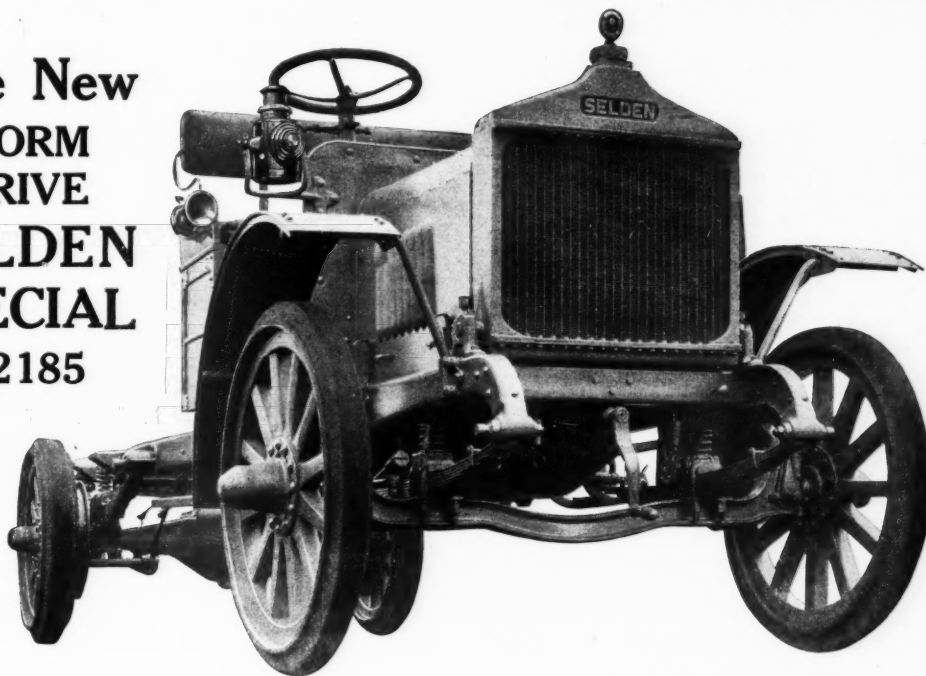
Price Current—Grain Reporter
Railway Age
Railway Electrical Engineer
Railway Maintenance Engineer
Railway Mechanical Engineer
Railway Signal Engineer
Retail Lumberman
Rubber Age
Shoe Findings
Shoe and Leather Reporter
Shoe Retailer
Southern Engineer
Southern Hardware and
Implement Journal
Sporting Goods Dealer
Starchroom Laundry Journal
Tea and Coffee Trade Journal
Textile World Journal
Timberman
Transfer & Storage
Twin City Commercial Bulletin
Woodworker

LIST OF MEMBERS

Each has subscribed to and is maintaining the highest standards of practice in their editorial and advertising service.

Advertising and Selling
American Architect
American Blacksmith
American Exporter
American Funeral Director
American Hatter
American Machinist
American Paint Journal
American Paint and Oil Dealer
American Printer
American School Board Journal
Architectural Record
Automobile Dealer and Repairer
Automobile Journal
Automotive Industries
Bakers' Weekly
Boot and Shoe Recorder
Brick and Clay Record
Buildings and Building Management
Building Supply News
Bulletin of Pharmacy
Canadian Grocer
Canadian Railway and Marine World
Candy and Ice Cream
Chemical and Metallurgical Engineering
Clothier and Furnisher
Coal Age
Coal Trade Journal
Concrete
Cotton
Daily Iron Trade and Metal Market Report
Domestic Engineering
Dry Goods Economist
Dry Goodsman
Dry Goods Reporter
Electric Railway Journal
Electrical Merchandising
Electrical Record
Electrical Review
Electrical World
Embalmer's Monthly
Engineering World
Engineering and Mining Journal
Engineering News-Record
Factory
Farm Machinery—Farm Power
Foundry (The)
Furniture Journal
Furniture Manufacturer and Artisan
Furniture Merchant's Trade Journal
Gas Age
Gas Record
Grand Rapids Furniture Record
Haberdasher
Hardware Age
Heating and Ventilating Magazine
Hide and Leather
Hotel Monthly
Illustrated Milliner
Implement and Tractor Age
Industrial Arts Magazine
Inland Printer
Iron Age
Iron Trade Review
Lumber
Lumber Trade Journal
Lumber World Review
Manufacturers' Record

**The New
WORM
DRIVE
SELDEN
SPECIAL
\$2185**



1877

The first gasoline motor propelled road wagon was a SELDEN. The present types of SELDEN TRUCKS are the result of years of continuous experiment, observation and experience in manufacture since the day of their inception in 1877.

**The Lowest Priced 1½ Ton WORM Drive
HIGH QUALITY Truck on the Market Today**

Manufacturing facilities, greatly increased during the war, to meet the demands of the United States and allied governments for SELDEN TRUCKS, enable us to standardize production of this model to such an extent that we can sell the SELDEN SPECIAL at a price far below its value.

The SELDEN SPECIAL is a truck of the same rugged construction, possessed of the same gigantic powers of endurance, of the same design, and built on the same sound engineering principles as the other models in the line of SELDEN HIGH QUALITY TRUCKS.

Under any hauling conditions in the transfer and storage business requiring a truck of 1½ tons capacity, the SELDEN SPECIAL will render highly efficient and profitable service.

Orders for the SELDEN SPECIAL received from hundreds of motor truck operators in all sections of the country, followed by voluntary reports of highly satisfactory performances of the SELDEN SPECIAL—many of them in the transfer and storage business—express the opinion of buyers well qualified to judge a motor truck.

The SELDEN LINE of In-built Quality Motor Trucks comprises models of 1½, 2, 3½ and 5 Ton capacity—all WORM Drive—equipped with bodies to meet the particular requirements of the transfer and storage business.

Ask the Selden Dealer in your locality, or write us for Specifications of the SELDEN SPECIAL—the truck that meets the needs of today for HIGH QUALITY CONSTRUCTION at MODERATE COST.

SELDEN TRUCK SALES COMPANY

ROCHESTER, N. Y., U. S. A.

Selden Motor Trucks

In Heavy Transfer Trucking F-W-D Means Longer Truck Life

IN the transfer and storage business the F-W-D meets the demands of the heavy, hard and constant service as no rear drive truck can. It handles all loads most satisfactorily and—

It makes a big money-saving by giving the most years of truck service. The first F-W-D, sold in 1912, is in daily use as efficient as ever.

FWD

*The boys from the
Front will tell you*

The lasting quality of the F-W-D is due to its distribution of load and power on all four wheels. Stresses are equalized—not concentrated on the rear axle.

The F-W-D is the most easily handled. It steers the same as a passenger car—with the front wheels only. With its 56-inch standard tread front and rear the F-W-D always finds a road. Carrying the same or greater loads than rear drive trucks of its rating, the F-W-D saves 16 inches in truck width and 46 inches in truck length—44 square feet.

The F-W-D saves 21% in tire equipment—does more work on the same fuel—brings trucking costs down to the minimum. Write for literature.

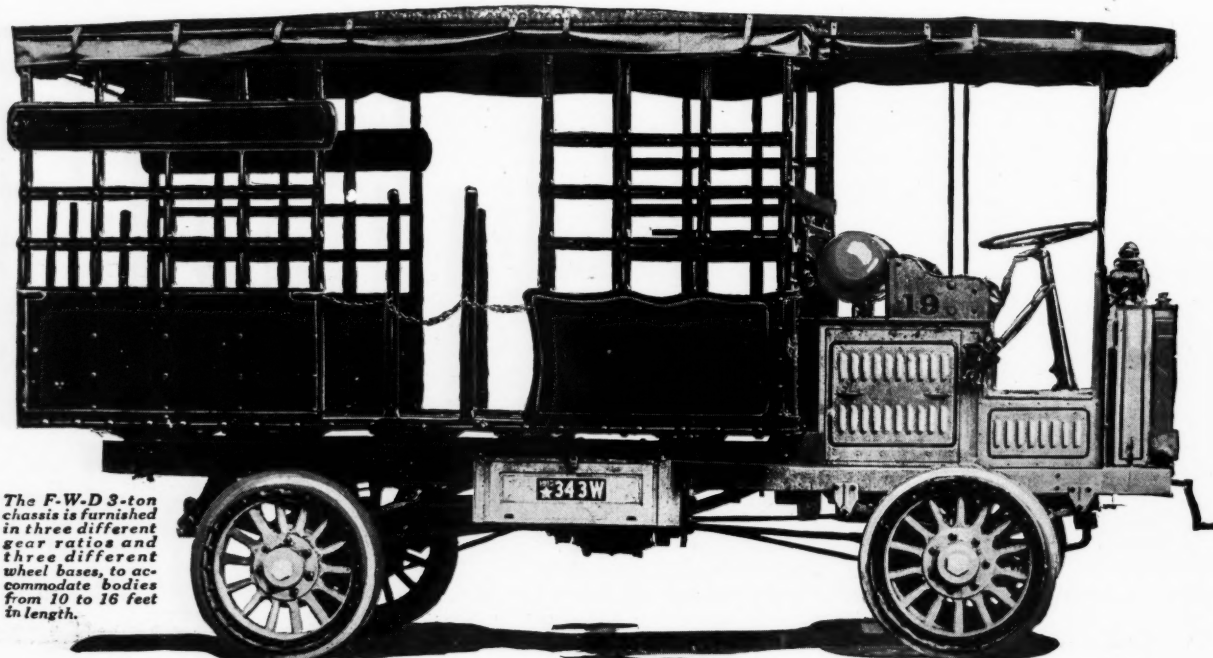
TRUCKS

The Four Wheel Drive Auto Co.

Dept. 108

Clintonville, Wisconsin

Canadian Factory: Kitchener, Ontario



The F-W-D 3-ton chassis is furnished in three different gear ratios and three different wheel bases, to accommodate bodies from 10 to 16 feet in length.

Trailmobile

Trade-Mark Reg. U. S. Patent Office

Modern Transfer Hauling

The Motorless
Motor Truck

Thousands in Use

DIVISION 1—Light four-wheeled Trailmobiles for use with passenger cars or light trucks: 1,250 lbs., $\frac{3}{4}$ ton and 1 ton.

DIVISION 2—Heavy-duty four-wheeled Trailmobiles for use with trucks; 1½ tons, non-reversible; 2 tons; 3½ tons, and 5 tons, Reversible.

DIVISION 3—Trailmobile Semi-Trailers: 2 tons, 3 tons, 5 tons, and 7 tons.

THERE has been a big change for the better in the hauling methods of transfer and storage companies during the past 10 years, and now a still further improvement is being adopted by leading concerns everywhere—trailer hauling.

A Trailmobile of the four-wheeled type doubles both the load space and the carrying capacity of your trucks. That counts heavily in cases where more than one truck load has to be hauled a long distance between cities. For hauling to which the semi-trailer is adapted it will also double or more than double the capacity of the power plant, and the entire load may be put on the trailer while the pulling-unit is away with a different load. On its return it merely hitches up and goes away with the loaded trailer.

The extra load which the Trailmobile can haul in excess of truck capacity adds little to operating expense.

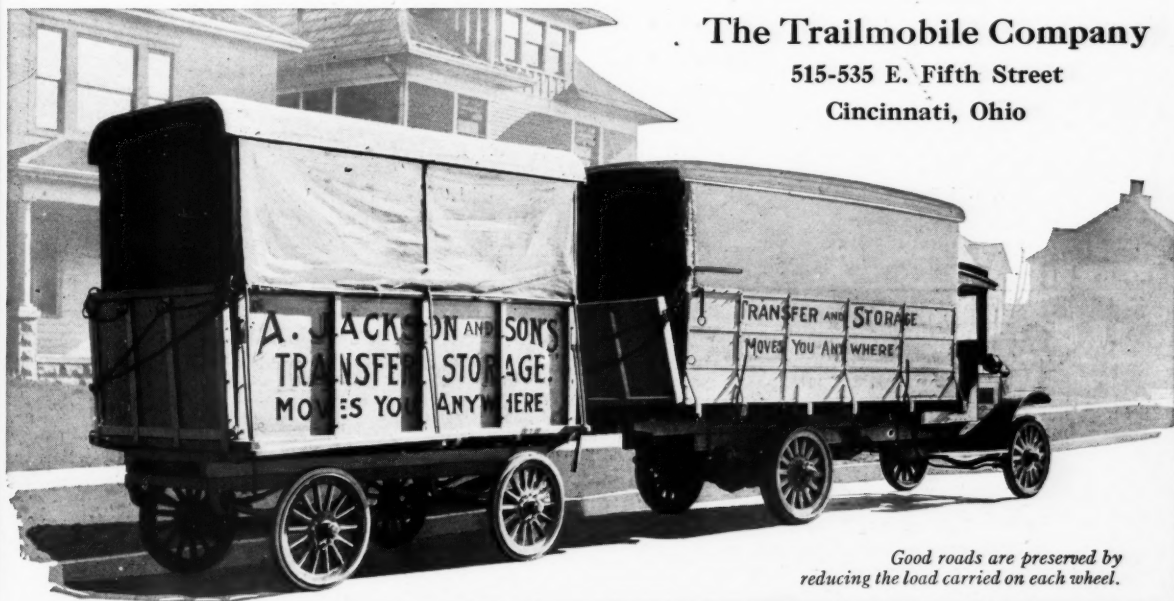
Movers and transfer men everywhere find this the most satisfactory method of increasing their hauling capacity either regularly or occasionally.

Write for booklet, "Economy in Hauling".

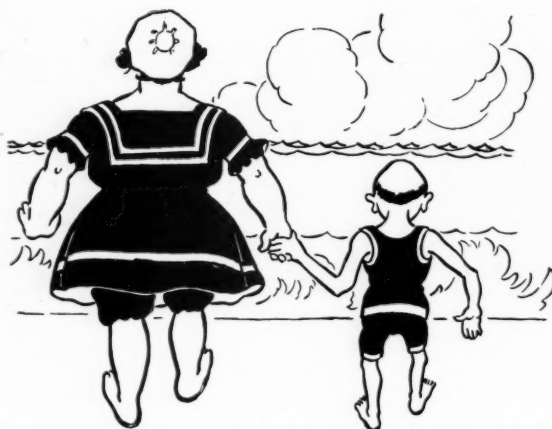
The Trailmobile Company

515-535 E. Fifth Street

Cincinnati, Ohio



*Good roads are preserved by
reducing the load carried on each wheel.*



A Striking Comparison

Look at a truck load of furniture piled in hit or miss with old rags, scratchy burlap and last year's pants and pajamas.

Then picture a truck load of furniture neatly covered and thoroughly protected with those attractive Loupilco Furniture Pads. Which is the best advertising? Which man will get the most business—the old rags man or the Loupilco man?

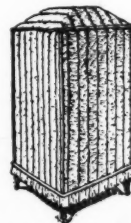
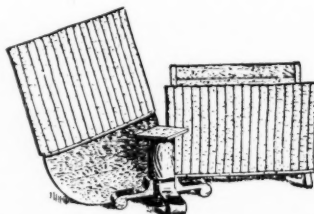
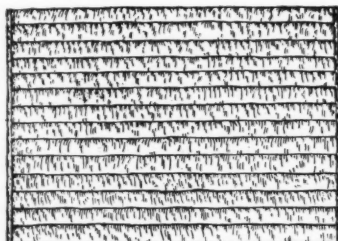
You betcha!

Aside from good advertising, Loupilco Furniture Pads—soft, resilient, durable—pay for themselves in no time by cutting out the expense of repairs and refinishing.

If you want to be the firm of "Up and Doing"—if you want to make all the money you can—you simply can't afford to be without Loupilcos, that's all.

Advertise your business, save money and increase your profits—send for prices and particulars today.

LOUISVILLE BEDDING CO., INCORPORATED,
LOUISVILLE, KY. OWNERS OF LOUISVILLE PILLOW CO.



ELECTRIC TRANSPORTATION



Better and Cheaper Trucking

For all congested districts
Reid, Murdoch & Co. say:

"We have been making a city delivery with auto trucks for two or three years and now have in service four 5-ton gasoline trucks and 20 electrics.

"The upkeep of the electric has, in our experience, been much more economical than that of the gasoline truck; in fact, 10 of the electrics, during the season of 1917, cost less for operating expenses than four gasoline trucks.

"Our first electric, in daily service since August 1st, 1914, is still as effective as on the day it left the shop and covers with ease 60 or 65 miles daily."

No mechanic-drive needed and the load isn't tainted or besmudged.

The efficiency of the electric truck depends on its battery.
The

Edison ^{STORAGE} Battery

is all steel like the sturdy springs and axles which carry it.

Use the Coupon for information

The Edison Storage Battery Co., Orange, New Jersey

308 Lakeside Avenue

Send me Bulletins on:—

- | | |
|--|--|
| <input type="checkbox"/> Commercial Trucks | <input type="checkbox"/> Farm Light and Power Plants |
| <input type="checkbox"/> Safety Mine Lamps | <input type="checkbox"/> Industrial Locomotives |
| <input type="checkbox"/> Time-Clock and Fire-Alarm Systems | |

- | | |
|---|--|
| <input type="checkbox"/> Industrial Trucks and Tractors | <input type="checkbox"/> Train Lighting |
| <input type="checkbox"/> Truck Lighting and Ignition | <input type="checkbox"/> Yacht Lighting |
| <input type="checkbox"/> Factory Emergency Lighting | <input type="checkbox"/> Lumber Tractors |

(Write Name and Address on margin of page)

The Economical Handling of Merchandise

is one of the greatest of industrial problems. The production of goods has been developed to the fullest—the sale of goods has been receiving the attention of business leaders for the past decade—and now comes for scientific consideration.

The Distribution of Goods

Many a big concern loses a large percentage of its profits by not being familiar with existing facilities for the transfer and storage of its shipments.

The 1919 Edition of The Transfer and Storage Directory

(Now Ready for Delivery)

should be in the possession of every traffic manager and shipper as well as on the desks of the officials of every storehouse and transfer company.

\$3.00 a Copy. Postage Prepaid

Contains data on how to compute warehouse rates according to the overhead expense; investment and income desired. How to base rates for handling commodities in and out of the warehouse.

Full particulars of warehouses and transfer companies throughout the United States and Canada, with names of officers, investment, capacity, facilities, railroad connections, etc.

Full Bound in Substantial Cloth. 386 Pages. (5 x 8 in.)

The Transfer & Storage Publishing Corp.

239 West 39th Street, New York

MORE MONEY

For Transfer and Storage Men

- ¶ We have a very interesting proposition to make to transfer and storage men who can and will handle the retail sales of our trucks.
- ¶ We have been very fortunate in the past in securing transfer and storage warehousemen to sell our trucks on an agency basis. The class of sales made has been very satisfactory and the transfer men have earned substantial rewards for their work.
- ¶ There is *much* money in it for you.
- ¶ Write today for details.
- ¶ Send for free booklet, Money in Motor Trucks.

J. C. WILSON COMPANY

Detroit, Mich.

makers of

WILSON dependable motor trucks

1-, 2-, 3½- and 5-ton capacity.

36th YEAR

Water Proof Storm Covers

for

Auto Trucks, Wagons and Horses. Radiator and Hood Covers. Van and Loading Pads. Tarpaulins, Piano Covers, Victrola Covers, Dust Covers, Caster Bags and Mailing Sacks.

We manufacture the Best Quality of Goods at Right Prices. Prompt Deliveries.

We Want Your Business.

Write Us for Quotations.

Keystone Canvas Goods & Flag Co.

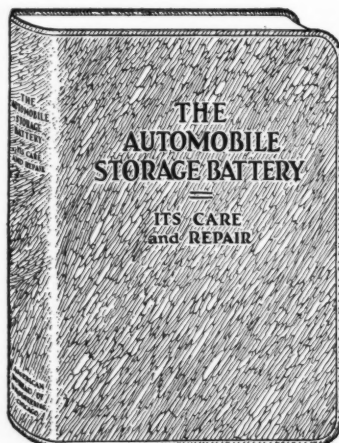
148 North Seventh St.

::

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Philadelphia, Pa.

This Book Opens New Opportunity for You



One branch of the auto repair and overhauling business is desperately in need of trained men—that is care and repair of storage batteries. With the development of the electric lighting and starting systems and their application to almost every car this is now a vital factor in all repair work.

If you are an auto repair man you can increase your worth with the information in this book. If you own a shop you can make it more efficient with the instructions in this book—

THE AUTOMOBILE STORAGE BATTERY

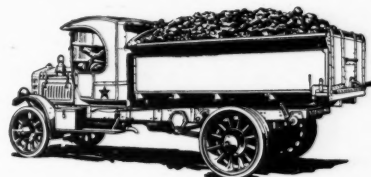
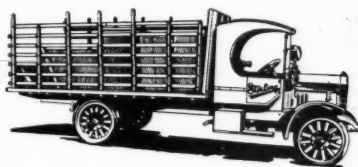
Its Care and Repair

284 pages fully illustrated, limp leather binding. Tells all the theory of the storage battery—how it “stores” electricity—how to take it apart—how to tell what the trouble is—how to repair it—in fact it is a complete work on this difficult subject, handled in non-technical language.

Endorsed by all the leading authorities as well as the battery manufacturers.

Mail us the price, \$5, and we will send you the book, postpaid. Examine this book for 5 days, if you do not think it the best investment you ever made, return it for your money.

U. P. C. Book Company, Inc., 243-249 W. 39th St., New York



NO matter what your business may be, if you have real hauling to do, there's a Sterling of the right capacity, speed and body equipment to handle it efficiently and economically.

**"Efficiency
on
Wheels"**

Sterling MOTOR TRUCKS

are built in 1½, 2½, 3½ and 5-ton capacities, Worm-Driven, and in 5 and 7½-ton capacities, Chain-Driven.

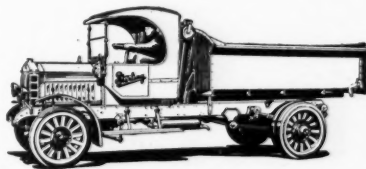
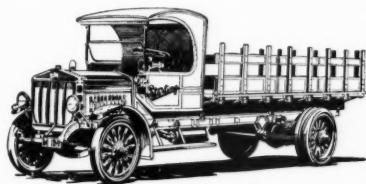
The 1½ and 2½-ton Sterlings, when equipped with Pneumatic Tires, will carry loads anywhere that a passenger car may be driven.

The 5-ton Chain-Driven Sterling—"The Road-BUILDER"—and the 7½-ton Chain-Driven Super-Sterling—"The Inter-City Freighter"—meet in an exceptional way the requirements of those who demand dependable service under extremely trying conditions.

Better Trucks than the Sterlings are not built anywhere.

Sterling Motor Truck Company, Milwaukee

Builders of Motor Trucks exclusively for twelve years



If It's
Made
of
Canvas
We
Make
It



Write
for
Stock
List
and
Catalog

Waterproof Storm Covers for Auto Trucks, Wagons and Horses, Tarpaulins, Dust Covers, Piano Covers, Victrola Covers, Tents, Horse Feed Bags, Radiator and Hood Covers, Furniture Loading Pads, Van Liner Pads, Canvas Pads and Bags of every description.

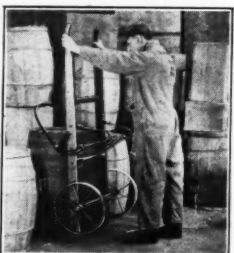
Large Stock — Prompt Deliveries

RICHARDS MFG. CORPORATION, Philadelphia, Pa.

MAIN OFFICE AND FACTORY: 948-952 NORTH 8th STREET



Truck is wheeled close so that barrel fits into the curved arm. Barrels standing against wall are instantly picked up without first being moved.



Handles are raised. Bale falls over barrel. Works automatically.

Stop Rolling Barrels

ROLLING barrels by hand is costing you twice as much as it should. Two men are doing the work that one man with an Automatic High Wheel Barrel Truck can do—and do easier and in less time. The automatic bale makes loading easy—it falls over the barrel and holds it tight to the truck. In fact, loading is the easiest part of the job. The 16 inch wheel speeds up the work—and it is so placed that the load is on the wheel and not the man. One man can handle a 1000 lb. barrel.

We will show you how the Automatic High Wheel Barrel Truck cuts labor costs by putting one in your warehouse for 10 days trial. Put it to work for you 10 days and put half of the men on the job, on other work. Write us to send you one on approval—write now.

This truck is the best barrel truck made. It is strongly constructed—cold rolled axle, malleable iron and hard-wood handle. Its width over all is 30 inches. The length of the handles, 67 inches. Price, F. O. B. Bellevue, O., \$20.00. Discount for five or more trucks.

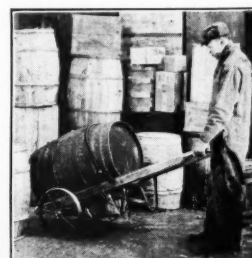
10 days free trial.

THE BELLEVUE MANUFACTURING CO.
BELLEVUE, OHIO

The Automatic Wheel Barrel Truck



Handles are drawn back and barrel is on truck. No second man required for heavy barrels.



Ready to truck and barrel has not been touched. Nicely balanced.

Standard
DETROIT
USA

Motor Trucks

ALL THE NAME IMPLIES

1, 2, 3½ and 5 Ton
Worm-Drive



A two-ton STANDARD

Dependable for Constant Service

Transfer men who realize the advantages of efficient haulage have found STANDARD heavy duty trucks entirely reliable for steady, unfailing performance of work at all times, and adaptable to all conditions coincident with transfer haulage.

This is due to the fact that the energies of the entire STANDARD organization are directed towards the manufacture of quality trucks—trucks that are constructed entirely of STANDARD units and built to give years of economical service. It will pay you to investigate the STANDARD.

STANDARD MOTOR TRUCK CO.

325 Bellevue Avenue

Detroit, Mich.



This Bradley Stencil Machine and One Boy Will Do the Work of Three Markers



And do it with black, clean cut accuracy that is straight insurance that your shipments *will go through*. No sidetracking or delay due to careless illegible marking. Follow the arrow and you will see the actual work—just as you can have it done in your place.

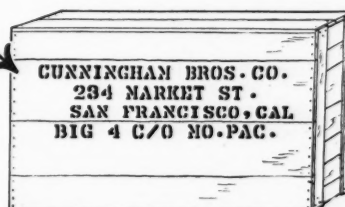
This is a startling economizer of Time, Money and Labor. You prove it on the following proposition:

Write us today and we will send you a "Bradley" ready for use—300 stencil cards, Patent Ball Marking Brush, etc. PREPAID. USE IT FOR A MONTH AT OUR EXPENSE. Then, if it doesn't cut card board stencils **faster** than any other machine or any expert can do them—SEND IT BACK. (No quibbling or correspondence on our part)—and we will pay Return Freight.

This is the biggest promise and the fairest proposition you have ever had. Order The Bradley Stencil Machine—NOW. You are losing Big money every day you wait.

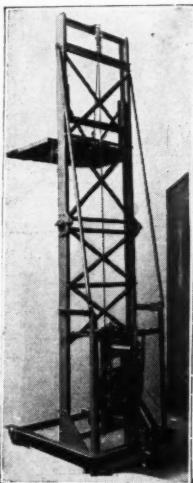
BRADLEY STENCIL MACHINE CO.
3744 Forest Park Boulevard St. Louis, Mo.

Note the Clearness of Bradley Stencils



You are Paying TOO MUCH to tier your packages—

while you are using "strong arm" methods. They are slow. And time now is MONEY—more than it ever was. And how about using two or three men when one man can do it quicker, better, cheaper? And how about not getting all the money out of your floor space?



BROWN - PORTABLE
HANDI-LIFT
"LOWERS THE COST OF LIFTING"

The NEW Portable Tying Machine

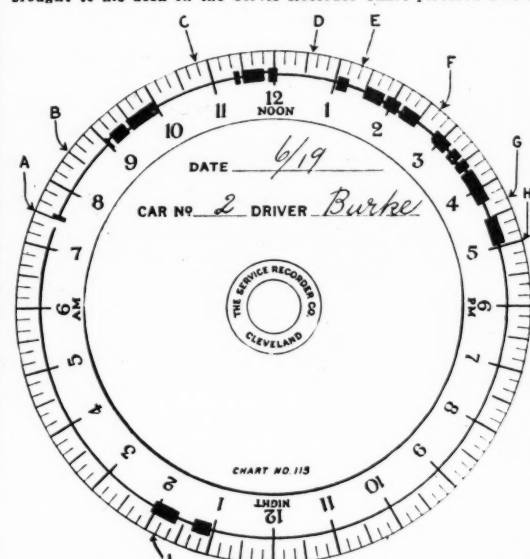
answers all these save-money and save-labor questions. And its answer is in dollars **saved**. The Brown "Handi Lift" saves from 1 to 4 men. And does the work quicker, cheaper than your present low tying (by hand methods). Your floor space then makes more money for you.

The Brown "Handi Lift" does not need space to swing its loads around. Tiers **straight up**—quickest, **cheapest** way. Hinged, if needed, to pass through low doors. Portable. Any size. **Guaranteed** by oldest portable conveying machinery company in the business. Ask for "Bulletin 38," sending details as to the largest sizes and weights of package, heights piled up to and lowest doorway. No obligation. Machine pays for itself—stops waste.

Brown Portable
Conveying Machinery Co.
10 S. La Salle St., Chicago, Ill.

What's Your Truck Doing All Day?

Here are the facts of one day's operation—facts that the truck owner didn't have to "go out after," but facts which were brought to his desk on the Servis Recorder Chart pictured below.



Daily Servis Recorder Chart (much reduced). Heavy mark shows when truck is in motion; narrow line shows truck standing still.
A—truck started at 7:30. F—held up 20 minutes (drawbridge).
B—hour and 25 minutes to load. G—stopped 15 minutes (somewhere on return trip. Ask about).
C—hour and 20 minutes (at freight depot). H—put up at garage at 5:00.
D—a lunch hour. I—taken out during night.
E—fifteen minutes (loading).

Write for Booklet

THE SERVICE RECORDER COMPANY, CLEVELAND

Dr. Pyle's Famous Veterinary Remedies

Contain NO OPIATES and leave no bad after effects. A specific remedy for each disease, no "CURE ALLS." Remedies we manufacture:

Azoturia
Remedy
\$2.00

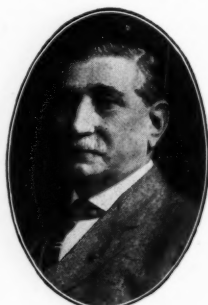
Distemper
Remedy
\$1.20

Colic
Remedy
\$1.50

Gall Cure
Salve
50c.

Healing
Powder
25c.

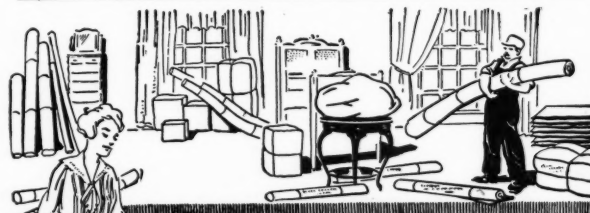
Special
Price
Per Dozen



Trade-Mark

All backed by our great \$150,000.00 Guarantee. For Sale at Druggists, Horse Goods Dealers or Direct.

The Dr. Pyle Veterinary
Remedy Co., Inc.
New Philadelphia, Ohio, U. S. A.



Better Protection of goods in shipment and storage

The problem of protecting rugs, carpets, draperies, etc., against moths, mice, germs, while in storage or in transit, is solved by the use of

WHITE TAR PAPER

Made in two grades—Pine Tar and Cedar. Pine Tar for ordinary materials; Cedar for the finest fabrics. Put up in rolls of 12 sheets, each sheet 40 x 48, in full size and in continuous rolls 50 yds. to 1,000 yds. Also heavy tar bag paper cut 5 x 7 and packed 100 sheets to the carton.

We sell Naphtaline Moth Balls, Flakes Crystals, Powder and Blocks; Lavender Compound and Cedar Compound in one-pound and two-pound packages, 100-pound boxes and barrels.

Write today for price list and full information.

The WHITE TAR COMPANY
CLIFF & JOHN STREETS, NEW YORK, N. Y.



Moves almost anything almost anywhere



Mathews Conveyor Systems move boxes or barrels, crates, cartons or trays; upstairs or down, straight away, around curves or down spirals. *Every foot of the way without one cent of expense for labor.*

Save miles of walking and hours of time now wasted in trucking or running elevators. Economize floor space for storage. Save wear and tear on flooring.

The Mathews Gravity Roller Conveyor eliminates trucks. No returning with empty carriers for loads. No idle hands. No mistakes. No delays. No breakdowns. Daily saving of overhead expense. *It saves your money.*

Write for illustrated catalog.

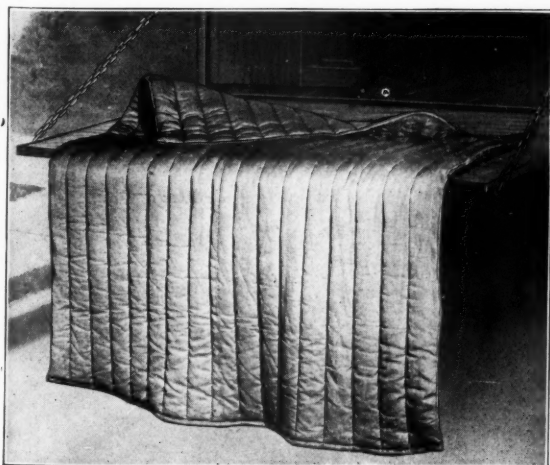
MATHEWS GRAVITY CARRIER COMPANY

134 Tenth Street, Ellwood City, Pa.

Branch Factories: Port Hope, Ontario—London, England

MATHEWS
SPEED ECONOMY
GRAVITY ROLLER CONVEYER

You Get 100% Service in Maish Quality Wagon Pads



Khaki Brown

We use an exceptionally heavy grade of Khaki Brown Covering in making the new Maish Quality Wagon Pads, believing the trade demands an article that is substantial and wear-resisting. Filling is an extra thick one-piece layer of cotton (no shoddy). Quilting in close rows of stitching with heavy carpet thread. Edges bound by our own special process to protect every seam and prevent ripping.

Maish Quality Wagon Pads are shipped on a guarantee that permits you to return them at our expense if you are not more than pleased. Immediate deliveries in all standard sizes.

No. 10 Cut Size, 36x72
No. 20 Cut Size, 54x72
No. 30 Cut Size, 72x80

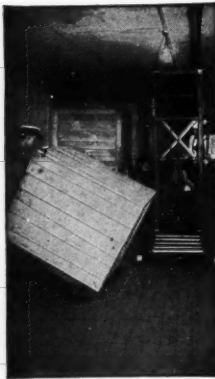
Prices quoted on application

THE CHAS. A. MAISH CO.

Makers of the world famous Maish Comforts

1129 Bank Street

Cincinnati, Ohio



1. Loading



2. Ready to Elevate

**Four
Steps
Toward**

**Lower Cost
Greater Efficiency
Increased Storage
Capacity**

by the

REVOLVATOR

Reg. U. S. Pat. Off.

Method

These four pictures illustrate four steps in the tiering of boxes with the Revolvator as practiced in one large warehouse. Storage and warehouse firms everywhere tell us that the Revolvator has reduced their tiering and handling cost 25 to 100% and increased their warehouse capacity 50 to 200%.

It will do as much for you. Don't take our word for it; ask any Revolvator user.

Write for Revolvator Bulletin T.

Revolvator Co.

**Sales Agents for
N. Y. Revol. Port. Elev. Co.**

389 Garfield Ave.

**Jersey
City
N. J.**



4. Unloading



**Save
Time
and
Labor
Sawing
Boxing
and
Crating
Lumber**

This neat, compact saw can be hung up against any convenient wall or column, thus taking up no valuable floor space.

The Reliance MOTOR DRIVEN Swing Saw

will save the time and energy of hand cutting—do the work much better and faster—and, being self contained, can be placed anywhere, regardless of power supply.

Easily installed by anybody. Direct or alternating motor. Built in three sizes, to accommodate any class of work.

Tell us your requirements and we will submit proposals.

Reno-Kaetker Electric Co.
4600 SPRING GROVE AVE.
CINCINNATI, OHIO

This CANTON PORTABLE CRANE

Has the Fairbanks O. K.

The
Handiest
Tool In
The
Shop



Because it is built to a quality standard—not to a price. It has the O. K. of every user, not only because of its strong construction, but because *one* crane lifts and moves the heavy, awkward pieces that formerly wore out six men in handling—and does it in less time.

Its extra strong base casting, projecting arms and gears are made from a mixture

of cast iron and steel—carefully finished and well fitted by expert mechanics. It is tested and guaranteed to *safely* lift its rated load. And they are made in sizes that fit the needs of any warehouse. Let a Canton Crane take the load off the men and *make one man's time worth six*. Get our free booklet containing money saving ideas for warehouse owners—get the particulars—write for them now.

The Canton Foundry & Machine Co.
CANTON OHIO

TRANSVEYORS

Moved on wooden platforms by elevating the Transveyor under the loaded skid; left in the warehouse on Transveyor platforms, compactly stored by pressing the Transveyor foot pedal—is Transveyor Transfer and Storage.

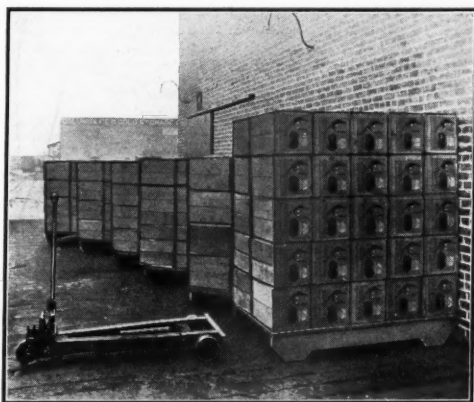
No handling—no congestion—extraordinarily large loads easily handled by one man.

Views of warehouse applications are yours for the asking.

COWAN TRUCK COMPANY

12 Water Street

HOLYOKE, MASS.



Kissel Trucks for Uninterrupted Transportation Throughout the Winter Months.

Owners in the transfer and storage business, realizing the great dependence they must place on motor trucks this winter, are investing in Kissel Trucks equipped with the ALL-YEAR Cab that—

Protects drivers in wet and stormy weather—removes the necessity of layups on account of rain or snow storms—discourages speeding to get under cover—diminishes possibilities of accidents and excessive wear and tear—increases the efficiency of the drivers by improving driving conditions—insures competent handling and care of trucks by attracting high class operators—keeps trucks in operation the year around regardless of weather.

In winter weather it is entirely enclosed, giving the driver a warm, dry, comfortable hotting at all times.

For summer, the windshield, side, door and rear windows are easily and quickly removed.

Five sized Kissel Trucks— $\frac{3}{4}$ ton to 5 ton. Winter is just ahead—see your nearest Kissel dealer immediately. Catalogue, specifications and prices on request.

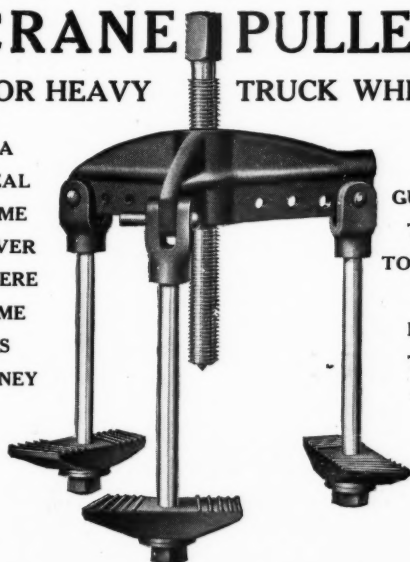
KISSEL MOTOR CAR CO.

Hartford, Wis.

U. S. A.

CRANE PULLER FOR HEAVY TRUCK WHEELS

A
REAL
TIME
SAVER
WHERE
TIME
IS
MONEY



GUARAN-
TEED
TO LAST
A
LIFE-
TIME

ONE Man can remove the heaviest Gas or Electric Truck Wheel in 15 Minutes with this PULLER.

Write for Catalog Z

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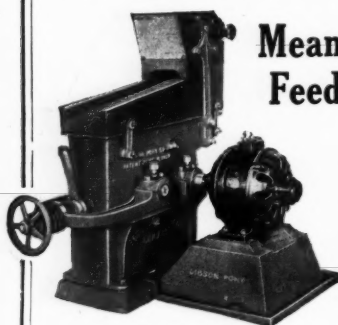
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Patented

**Means Conservation,
Feed Less in Weight**

**Your Stock
Gets More
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from Less
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Machine now built under United States Food License L000086 U. S. A.

1st. Your stock is built up in bone and muscle. No colic, or stomach trouble.

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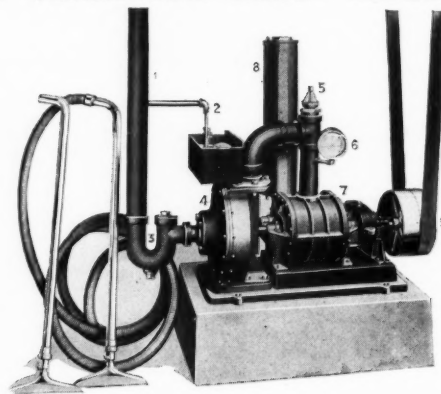
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A Connerville centrifugal separating vacuum cleaner will make a profitable addition to your storage plant. There is money in cleaning rugs.

USE THE VACUUM SHAMPOO METHOD

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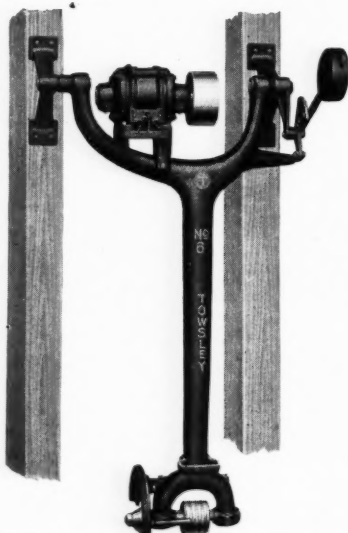
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UNITED VACUUM APPLIANCE DIVISION
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SHIPMENT**

No. 6 Motor Driven Swing Cut-off Saw

A rapid and accurate cutter. Counter-weight gives quick return to saw, self-centering device for saw, self-oiling boxes. Machine carries blades up to 20-in. without vibration. Write today for Bulletin of motor-driven and belted Swing Saws.

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Manufacturers

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What Everybody Needs

PIANO MOVERS find that the hoisting and lowering of pianos is made easy, safe and economical by the use of this practical, adjustable Window Derrick. Handy to carry, easily put in place by one man, always ready and quickly utilized.

It is a practical patented invention, which has been in use for twelve years and has demonstrated its value beyond question. It clamps to window. There is also a swing under bar which is placed under outer end of piano and carries it in or out.

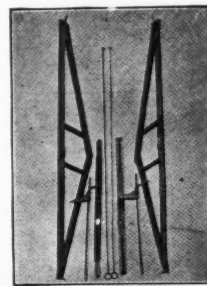
Every mover of safes, pianos or heavy merchandise needs Breen's Piano Derrick because it saves the strength of the men, means a tremendous saving of time, and obviates jams and scratches. Several firms have taken out third story window, set the derrick in place, hoisted piano, and replaced window in 25 minutes.

Also manufacturers of Belts and Bars to hoist Pianos and Ropes, Blocks and Piano Covers.

Write to-day. Catalogue for the asking.

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"THE HOLYOKE" Transfer Truck

One Man and this truck performs the work of Four Men.

Various models to suit every variety of work.

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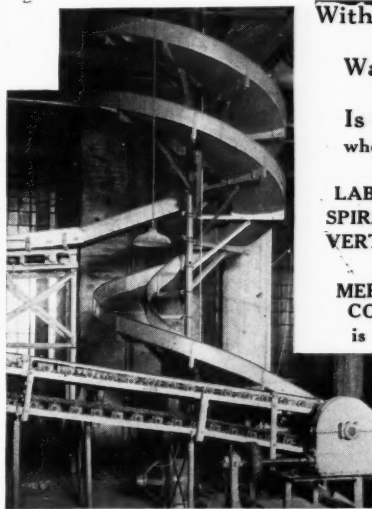
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With Help Scarce AND

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when the need

for our

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AND

MERCHANDISE
CONVEYORS
is imperative

Owned by
The Haslett
Warehouse
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handling

problems in our own fourteen general merchandise store-houses has enabled us to give practical advice to warehouse and terminal concerns. We are at your service.

Through long experience we have learned how to combine every form of merchandise conveyor so as to obtain the most practical results.

When no standard form of conveyor is adequate, we design special machines.

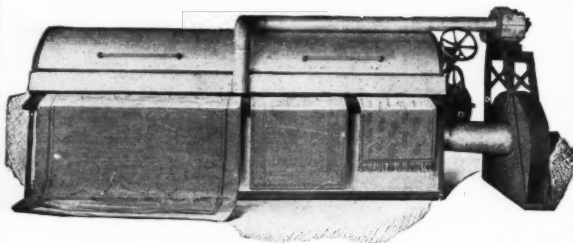
When you want information on conveyors, write us. We can help you.

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Because there is Big Money in It

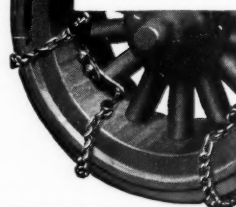
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companies are installing
this big rug cleaning
machine



The most perfect Rug Cleaner made

The Cleveland Laundry Machinery Mfg. Co.
CLEVELAND, O.

Giant Grip Traction Equipment for Motor Trucks



MAKES transfer and express trucks 100% efficient. Insures against time lost through tie-ups due to mud, sand, snow or other bad going. Carried in tool box. Applied when needed—with bare hands in two minutes. No tools; no jacking. Write today. Please give name and tonnage of trucks. Address

Challoner Company
Established 1863
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HORSE NAILS THAT HOLD



insure the best service for the horse owner.

Someone's time must be wasted, someone's money needlessly spent if the nails fail.

Of course, you want maximum service. Then have Capewell nails used. It pays well.

Look for the Capewell Trade Mark—a pattern on the front face of the head, formed by lines crossing each other diagonally.

Not the cheapest nail, regardless of quality, but the world's best at a fair price.

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Renew the Power and Life of
Your Engine
by having the

Cylinders Reground

and equipped with new

Pistons—Piston Pins—Piston Rings

by the

Butler Manufacturing Co.

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Pick Your Consignee

from the companies listed in this section—they are the "live wires" of the field and will handle your shipments promptly and efficiently.

It is also worth your while to earn their reciprocity.

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Two straps $\frac{1}{2}$ " x .015 can be applied to standard canned goods boxes at an average cost of less than four cents per box, including material and labor. Write for full information to

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OUR REGRINDING PROPOSITION
WILL CUT DOWN YOUR BALL
BEARING BILLS. TRY US AND
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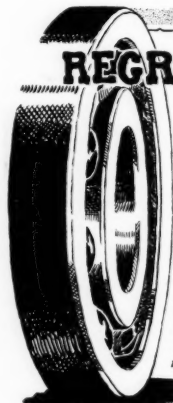
AHLBERG BEARING COMPANY

517-527 EAST 29TH ST. CHICAGO, ILLINOIS.

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If you don't find what you want here, your advertisement here will find it for you.

This Exchange section serves a real purpose in the industry by affording a central market place for the disposing of equipment no longer needed, and the securing of special apparatus at bargain prices. If you have any equipment for sale or wish to sell your business, this section is the logical place to advertise. All advertisements in this section will be accepted at a flat rate of three cents per word for each insertion.

FOR SALE.—Well established transfer and storage business (warehouse, motor trucks, teams and other equipment) in a city having a population of 8000 located in Central Illinois. Our warehouse is filled to capacity. We do about 75% of the transfer and storage business in this city, both storage and hauling. Address Box 58, care of Transfer & Storage, 239 West 39th Street, New York.

FOR SALE.—3 furniture moving vans; size about 13 x 5 x 7; selling because we are putting on motor trucks; only \$100 apiece. New York Storage Co., 2219 Wash St., St. Louis, Mo.

FOR SALE.—Money-making transfer and storage business located at Nogales, Ariz., on the border between the United States and Mexico. Full information upon inquiry. Wylie Transfer Co., P. O. Box 455, Nogales, Ariz.

WANTED TO BUY.—One set second hand self lifting piano trucks. Dragoun Transfer & Storage Co., Ames, Iowa.

WE WANT TO SPEND \$25,000 CASH for unclaimed merchandise left in storage. We will buy for spot cash. Novelties of all kinds, household specialties, toys, knick-knacks, books, post cards, jewelry, pictures, patented articles, "fool" inventions. Anything of which there is a large quantity. Send sample and say how many you have. Our spot cash offer by return. Address Fantus Brothers, 525 So. Dearborn St., Chicago, Ill.

WANTED.—We are looking for a good second-hand oat grinder. P. O'Malley & Son, Geneva, N. Y.

AN old established Household Goods Storage Co. in one of the largest cities of the West desires to increase its capital for the purpose of extending the business. Investors taking an active part in the business preferred.

Up to the present time the storage on hand aggregates from eight to ten thousand dollars.

With additional capital and improved facilities the business can be increased to a considerable paying extent. There are a number of reasons and proofs to demonstrate the fact that the proposition is based on strictly sound business principles, subject to the closest inspection and examination.

The larger the capital the better the security of a big success.

The high reputation of the company, inclusive of a good foundation of the business on hand, are factors of importance in figuring on positive, speedy success.

A splendid chance for several parties to procure an interest in an old going business.

Apply to "WEST," care of Transfer & Storage Magazine.

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*Made of Tough Soft Drill
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STOCK SIZES:
36" x 72" 50" x 72" 75" x 72"

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FULTON BAG & COTTON MILLS, Inc.

330 WYTHE AVE., BROOKLYN, N. Y.

Phone: Greenpoint 4200

20% Feed Bill Saver

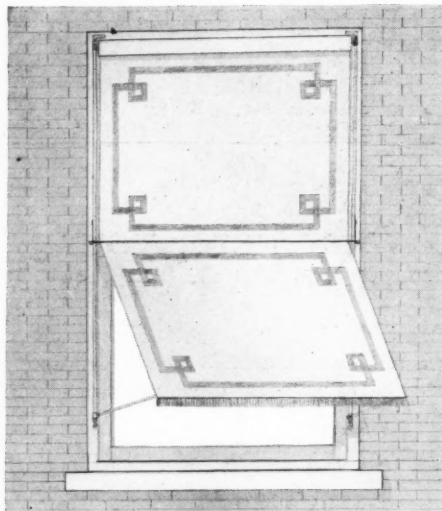
This means if at present you are feeding 4 qts. to each horse per meal, by feeding crushed oats you save 2.4 qts. The yearly saving is 27 bushels, and figuring oats at 55 cents per bushel means \$15.00 saved on each horse. Just multiply this on each horse you have.

Crushed oats produce bone and muscle and keep horses in better working trim with more staying power, because Crushed Oats gain over whole oats from 15 to 25 per cent in nutriment.

The National is the most economical crusher to do this work—the power consumed costing about 10 cents per horse per month. It frees the food from foreign particles. This crusher will crack corn at the time it's crushing oats. Write for our money-saving booklet on crushed oats feeding—it's free. Write now.

National Oat and Corn Crusher

made by Excel Mfg. Co., Pottersville, N. J.



The Detroit Spring Shade

made by

Detroit Canvas Mfg. Co.

Furniture and Van Pads

Phonograph Covers

Table Top Pads

Water-Proof Storm Covers

for Horses and Wagons

Piano Covers (fleece lined)

**Auto Truck, Radiator and
Hood Covers**

PRACTICAL ideas, high quality of materials, skilled workmanship and modern manufacturing facilities are combined by the Detroit Canvas Manufacturing Company to make unexcelled products. We solicit the opportunity to demonstrate to buyers in the transfer and storage industry the money saving ideas and practical utility that are built into our canvas goods.

**Detroit Canvas Manufacturing
Company**

245-247 Larned St., East

DETROIT

MICH.

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Aluminum Brazing Solder Co.	Frederick's Taxicab & Transfer Co.
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Furniture Loading Pads

PIANO COVERS

TABLE TOP COVERS

VICTROLA COVERS

VAN LINER PADS

PIANO TRUCKS AND FULL EQUIPMENT FOR HOISTING

WATERPROOF AUTO TRUCK COVERS

WATERPROOF WAGON COVERS

BURLAP — TWINE — ROPE

Get the Best

WM. A. IDEN CO.

564 Washington Blvd.

CHICAGO, ILL.

Write for Prices

You've Been Looking For This!

The Magic Scratch Remover instantly touches up scratches, bumps, bruises, mars and other injury to varnished furniture and pianos. It works on any color of finish and the results it produces are permanent.

If each of your men has a Scratch Remover in his pocket he can repair the damage the instant it occurs and BEFORE discovery by the customer.

Users tell us that the Magic Scratch Remover will eliminate about nine-tenths of the "grief" from any transfer and storage business.

Price, only \$5.00 per dozen
\$2.60 per half doz., postpaid

FULLY GUARANTEED—Fill out the coupon asking us to ship strictly on approval. If you are not more than pleased send the shipment back at our expense.

Note—If you maintain a finishing shop you need one of our complete **Finish Repair Outfits**. It will enable you to deliver your badly damaged goods TODAY, not next week. It saves refinishing in EVERY case.



The M. L. Campbell Company
706-708 E. 19th Street Kansas City, Missouri

The M. L. Campbell Co.
Kansas City, Mo.

Gentlemen—Send us prepaid _____ doz. Magic Scratch Removers. We will remit \$_____ or return the shipment within thirty days.

Firm

City State

MAGIC SCRATCH REMOVER

WALKER ELECTRIC TRUCKS



-\$ \$ \$

Transfer Companies sell transportation. The increasing numbers of WALKER ELECTRICS in this service prove that WALKERS produce profits for transportation companies.

WALKERS handle 80% of city trucking at 33 1/3 to 50% less than gasoline equipment.

Ask any WALKER User, Dealer or Branch.

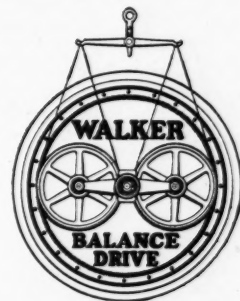
WALKER VEHICLE COMPANY

America's Leading Manufacturer of Electric Trucks and Tractors

New York

CHICAGO

Boston



LOWEST-TRUCKING-COST

White Trucks



THE outstanding reason why White Trucks are so widely used by Transfer & Storage Companies is that *they do the most work for the least money.*

Where cost records are kept, Whites invariably show lower operation and maintenance costs and a higher percentage of days in active service. Experienced truck users buy Whites in fleets and add to them year after year because White Trucks are known money savers.



THE WHITE COMPANY
CLEVELAND

